Paragon Partition Manager™ 9.0

User Manual

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Introduction

Paragon Partition Manager™ 9.0 is an integrated set of powerful tools that is specially designed to tackle most of the problems the user might face while using PC. A highly intelligent program engine together with built-in advanced recovery facilities make it possible to securely carry out partitioning operations of any complexity, optimize performance of NTFS and FAT file systems, migrate the system to another hard disk, etc. without fear to lose precious data.

Setting up major operations is accomplished by using practical wizards. Each step of the wizard includes in-depth information in order to allow the user to make the right choice. Graphical representations of the data help the user to gain a better understanding.

In this manual you will find the answers to many of the technical questions which might arise while using the product.

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Partition Manager Editions

The product is being released in several editions, *Personal* and *Professional*, which vary in price and provided functionality:

- The *Personal* edition does not support dynamic disks:
  - It cannot perform any operations on dynamic disks, but entire deletion;
  - It cannot convert dynamic disks back to basic;
  - However, it can recognize the layout of dynamic disks.
- *Backup to a Network Drive* and *Perform Incremental Copy* functions are unavailable in the *Personal* edition.
- There is no *File Transfer Wizard* in the *Personal* edition.
- *Change Cluster Size, Change Root Size (FAT16), Change Boot Size (FAT16/FAT32), Downgrade NTFS Version, Defragment MFT, Compact MFT, Change Primary Slots, Change Serial Number, Change Partition ID, Change SID, Convert to Basic* program's dialogs are unavailable in the *Personal* edition.
- There is no possibility to send notifications by e-mail on the carried out operations in the *Personal* edition.

Please take into consideration the mentioned above peculiarities of the certain versions when working with the program.

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Product Components

In order to cope with different tasks, the product contains several components:

- **Windows based set of utilities** is the crucial part of the product. With the help of an easy to use launcher the user may find and run tasks in the field of hard disk partitioning and optimization, data and system backup, hard disk/partition cloning, etc.
- **Linux/DOS based Recovery CD** is a multi-platform bootable media that enables to run utilities under Linux or PTS DOS, and that way to get access to the hard disk for maintenance or recovery purposes. Both platforms have their strong sides, for instance Linux can boast support of FireWire (i.e. IEEE1394) or USB devices. It enables to burn CD/DVD disks. However there can be some difficulties with detecting new hardware. DOS in its turn has no problems of that kind but is limited in features. The Linux/DOS Recovery CD requires no installation and can be of great help when the system fails to boot. Besides it offers a Windows XP like environment.
- **WinPE based Recovery CD**. Especially for keen followers of Windows, our product also offers a WinPE based bootable media. Unlike Linux/DOS Recovery CD it can boast an excellent hardware support and the same interface as for the Windows version. However its system requirements are much tougher.

To know more about functionality of each particular component, please consult the Features Overview chapter.

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Features Overview

This chapter dwells upon key benefits and technical highlights of the product.

Key Features

Well let us list some of the product key features:

- **Comprehensive wizards** to simplify even the most complex operations.
- **Previewing the resulting layout of hard disks before actually executing operations** (so-called *virtual operations*).
- **Simple backup**/**restore** facilities to secure your system and data.

***Restore* function is only available for Linux/DOS and WinPE Recovery CDs.**

- **Support of basic techniques to store backup images**:
  - *Backup to local mounted (Drive Letter Assigned) partitions*;
  - *Backup to a network drive* to stand a better chance of success in case of a hard disk failure;

***Backup to a Network Drive* function is not available for the *Personal* version of the program. To know more on the subject please consult the Partition Manager Editions chapter.**

- **Copy partition**/**hard disk** facilities to successfully transfer all on-disk information including standard bootstrap code and other system service structures, thus maintaining the operating system's working capability. Besides it can be used as another means of data backup.
- **Partition/Hard disk management** facilities to perform partitioning operations (create, format, delete, convert, move/resize, merge, redistribute, etc.), mount partitions of different file system types, modify file system parameters, providing the ability to successfully migrate operating systems to larger hard disks, optimize the disk system performance (defragmentation), etc.
- **File Transfer Wizard** to make such operations as copying of separate files/directories or burning of them to CD/DVD as easy and convenient as possible. It may be of particular use in case of a system malfunction, cased either by a virus attack or files corruption, in order to get the system back on track. The key advantage of it is that it provides access to Paragon backups as regular folders to browse through their contents or copy required files.
- **Volume Explorer** is a handy tool when you have different file systems on the disk, whether they contain an operating system or just data. Volume Explorer will let you explore a file system of any type and will provide access to the necessary files and directories regardless of their security attributes.
- **Recovery Media Builder** to create a bootable media, which can be used to boot your computer in case of an operating system failure. Besides, it gives you such functions as saving data from partitions on your hard disk directly to compact discs and burning ISO-images. The utility supports various formats of laser disks: CD-R/RW, DVD-R/RW, DVD+R/RW, DVD-R, DVD+R double layer and can handle multi-session burning.
- **Network Configuration Wizard** to establish a network connection under Linux either to save a backup of a partition/hard disk or just several files on a network computer or retrieve a previously made backup from a network computer for restoration purposes.

Supported Technologies

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Along with using innovative technologies from outside, Paragon has developed a number of its own original technologies that make its products unique and attractive for customers:

- **Paragon Hot Backup™** technology to back up locked partitions and hard disks under Windows NT+ family operating systems providing both high operating efficiency as well as low hardware requirements.
- **Paragon Power Shield™** technology to provide data consistency in case of a hardware malfunction, power outages or an operating system failure.
- **Paragon UFSD ™** technology to browse partitions of any file system including hidden and unmounted, modify and copy files and folders, etc.
- **Paragon Hot Resize™** technology to enlarge NTFS partitions (system, locked) without rebooting Windows and interrupting its work.
- **Paragon Restore with Shrink™** technology to restore a backup image to a free block of smaller size taking into account only the amount of actual data of the image.
- **Paragon Smart Partition™** technology to securely perform hard disk partitioning operations of any complexity.
- **Paragon BTE ™** technology to set tasks for execution in the Windows blue screen mode, thus saving from the need to use a bootable media when modifying system partitions.
- **Paragon Shutdown After Apply™** technology to set the computer to automatically switch off on the successful accomplishment of any operation.
- **Microsoft Dynamic Disk** (simple, spanned, striped, mirrored, RAID-5) to offer more management flexibility without the partition limitation of basic disks. Dynamic storage can be particularly beneficial for large-scale businesses when dealing with many physical hard disks involving complex setup.

Supported File Systems

Paragon Partition Manager 9.0 provides support of major file systems presented on the market today:

- Full read/write access to Ext2FS/Ext3FS partitions under all versions of Windows, DOS 5.0 and later.
- Full read/write access to NTFS (Basic and all five types of Dynamic Disks) under Windows 95/98/ME, Linux and PTS DOS. Compressed NTFS files are also supported.
- Basic partitioning operations (*create, format, delete*) for Linux Swap.

Supported Media

- Large hard disks (up to 1,5 TB tested, 2 TB limit in theory)
- IDE, SCSI and SATA hard disks
- CD-R, CD-RW, DVD-R, DVD+R, DVD-RW, DVD+RW and also DVD-R, DVD+R double layer discs
- FireWire (i.e. IEEE1394), USB 1.0, USB 2.0 hard disks, ZIP® and Jazz® disks, MBR Flash Cards
- PC card storage devices (MBR flash memory, etc.)

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Getting Started

In this chapter you will find all the information necessary to get the product ready to use.

Distribution

Paragon Partition Manager 9.0 is distributed in two ways:

- Boxed package from Paragon Technology GmbH and resellers
- Downloadable package over the Internet at the company's web-site

Distributive CD

The boxed package includes a distributive CD that is in fact a bootable Recovery CD with auto-run of the Windows installation, thus it can be used as a ready-made solution (see Booting from the Linux/DOS Recovery CD).

Thus in order to run the Windows components, you need to install them first (see Installing the Program).

If you want to download an update/upgrade of the product, it will be in form of the downloadable installation package as described in Online Distribution).

Online Distribution

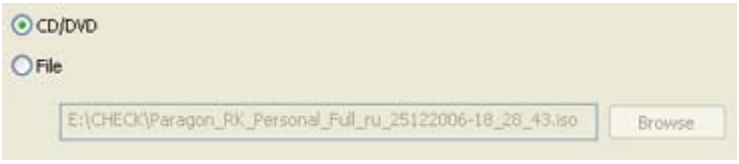
Partition Manager 9.0 purchased over the Internet contains two downloadable files:

- Self-extracting file for Windows components installation;
- Recovery CD ISO image-file with a built-in tool for CD/DVD burning

These files can be downloaded individually as found necessary.

To burn an ISO image of the Recovery CD, simply do the following:

1. **Launch the *Unpack & Burn Wizard*** by clicking on the downloaded executable file;
2. On the *Destination* page of the wizard **select the *CD/DVD* option** to write directly to a CD/DVD disk;



The *File* option enables just to save the image as an ISO file in the required location.

3. On the *CD/DVD Writing Parameters* page **choose the required recording device** from the list of all available devices, then **define the writing options** (speed and whether to eject the recorded disc after completing the operation or not);

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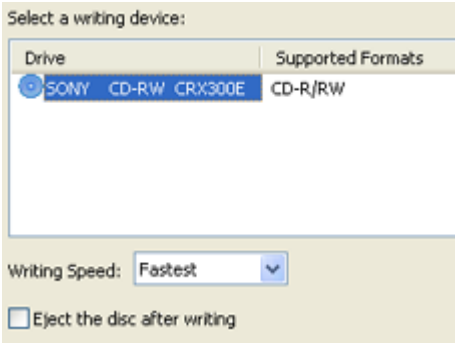

4. **Insert a blank disk into the recording CD/DVD drive** and click the *Next* button to start the operation.

Registration

Paragon Technology GmbH provides a wide range of online services through its web-service - KB (Knowledge Base):

- Registration of new users;
- Registration of purchased products for registered users;
- Available around-the-clock downloading center, where registered users can get product updates/upgrades as well as all the necessary documentation;
- Downloadable free demo versions and open documentation for all users.

To enter the Knowledge Base, please visit the web-site: http://kb.paragon-software.com/.

It is recommended to use Internet Explorer 5+ or any compatible browser.

To Register as a New User

To register as a new user, simply do the following:

1. **Run the Internet browser and visit the page**: http://kb.paragon-software.com/;
2. Select **Registration** in the menu;
3. On the renewed page, **select your country and language**;
4. **Fill out the registration form**.

The most important field in the form is an E-mail address, as it serves as a login to enter the system. Besides your access password will be sent to this address as well.

To Register a New Product

If you are a registered user and would like to register Partition Manager 9.0, simply do the following:

1. Click **Login** in the menu;
2. On the *Login* page, in the *User Name* field, **enter an E-mail**, which you have used for registration;
3. In the *Password* field **enter the password** you received with registration confirmation. Click the *Submit* button;
4. If the user name and password are valid, you will enter the system;
5. In the opened menu click the **Product Registration** item to see a list of all registered products with a new registration form;

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6. Select **Paragon Partition Manager 9.0** from the list of products;
7. **Type in your product serial number** in the *Serial Number* field. Click the *Submit* button.

That is all. You will receive a confirmation by E-mail.

How to Download Updates/Upgrades

Downloading of updates/upgrades can be fulfilled in the following way:

1. **Enter the Paragon Software web-service**;
2. In the menu click the **Download Update** to see what updates are available for you;
3. **Select the desired update** and click the *Download* button.

Contacting Paragon Technology GmbH

If you have any questions about the company products, please do not hesitate to contact Paragon Technology GmbH.

Service	Contact
Visit Paragon GmbH web site	www.paragon-software.com
Registration & updates web-service	kb.paragon-software.com
Knowledge Base & Technical Support	kb.paragon-software.com
Pre-sale information	sales@paragon-software.com

System Requirements

Windows based set of utilities

To use the Windows utilities, you should install them first. But before that, make sure your computer meets the following minimum system requirements:

- Operating systems: Windows 98/NT/2000/XP/Vista and XP/Vista 64-bit
- Internet Explorer 5.0 or higher
- Intel Pentium CPU or its equivalent, with 300 MHz processor clock speed
- 128 MB of RAM
- Hard disk drive with 40 MB of available space
- SVGA video adapter and monitor
- Mouse

Linux/DOS based Recovery CD

To use the Paragon Linux/DOS Recovery CD on your computer (it doesn’t matter what operating system is installed), make sure that it meets the following minimum system requirements:

- IBM AT compatible computer with i486 or higher CPU
- 256 MB of RAM
- SVGA-compatible monitor

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- Mouse (recommended)
- On-board BIOS supports *booting from CD first*

There may be additional requirements if you want to use advanced features:

- Network card is required to send partition/hard disk backups to a network computer or to retrieve previously made backups
- Recordable CD/DVD drive is needed to burn data to compact disks
- To save copy or backup of a hard disk or partition, removable USB disks can be used. The program supports USB Drives 1.0, 2.0.

WinPE based Recovery CD

To use the WinPE based Recovery CD on your computer, (it doesn't matter what operating system is installed), make sure that it meets the following minimum system requirements:

- Intel Pentium CPU or its equivalent, with 300 MHz processor clock speed
- At least 384 MB of RAM (512+ is recommended)
- Hard disk drive with 40 MB of available space
- SVGA video adapter and monitor
- Mouse

Installing the Program

As we have already mentioned only Windows components of the product require installation. So to install Paragon Partition Manager 9.0 under Windows, simply do the following:

1. **Run Setup Application**
From the folder, where the setup files are kept, run the *SETUP.EXE* file. This application will guide the user through the process of the program installation. The setup utility is compiled with the **InstallShield SDK**, hence it contains the standard user interface and set of installation steps.

In case there is some previous version of the program installed on the computer, the program will offer the user to uninstall it first.

2. **Starting Setup**
The Welcome page informs that the application is being installed. Click the *Next* button to continue.

3. **Confirm License Agreement**
The License Agreement page displays the Paragon License Agreement. Read the agreement and then click the *Yes* button to accept. If the user does not agree with any conditions stated there, the installation process will be interrupted.

4. **Select an Installation Folder**
The Destination Location page allows the user to choose the folder where the program will be installed. By default, the installation folder will be created as:

C:\Program Files\Paragon Software\Paragon Partition Manager 9.0. To select another folder, click the *Browse* button.

After you have selected the required folder, click the *Next* button to continue.

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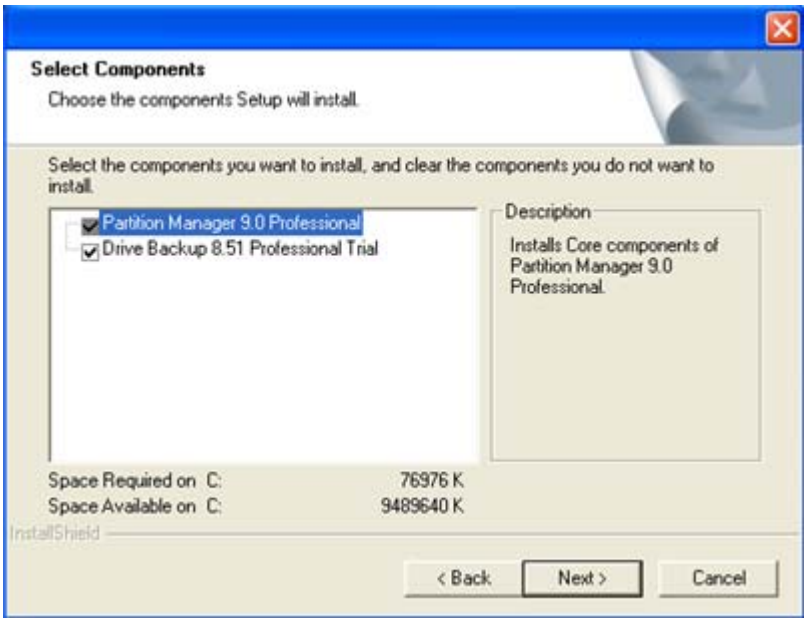
Do not install the program on network drives. Do not use Terminal Server sessions to install and run the program. In both cases, the program functionality will be limited

5. **Select Components to Install**

The Select Components page enables the user to choose what components are to be installed.


Select Components
Choose the components Setup will install.
Select the components you want to install, and clear the components you do not want to install.
Partition Manager 9.0 Professional
Drive Backup 8.51 Professional Trial
Description
Installs Core components of Partition Manager 9.0 Professional.
Space Required on C: 76976 K
Space Available on C: 9489640 K
InstallShield
< Back
Next >
Cancel

Besides Partition Manager 9.0 the user can also install a trial version of Drive Backup™ 8.51 as a bonus from Paragon Technology GmbH. So choose the required component(s) by marking a checkbox opposite its title. A brief description to the selected feature on the right will help make no mistake.

Click the *Next* button to continue.

Partition Manager 9.0 will be installed anyway as it is the main component.

6. **Select a Program Group**
The Program Folder page enables the user to select the application's program group for the Start Menu. By default, it will be the program group:

Start > Programs > Paragon Partition Manager 9.0.

Click the *Next* button to continue.

7. **Verify Setup Settings**
The Start Copying page allows the user to verify settings, which have already been made and correct them if necessary. Press the *Back* button to return to the previous page and modify the installation settings. Click the *Next* button to complete the installation process.

8. **Copying Files**
The Setup Status page shows the overall progress of the installation. Click the *Cancel* button to abort the setup.

9. **Finishing the Installation**
The Final page reports the end of the setup process.

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To accomplish online backup/copy of locked partitions/hard disks the program uses a kernel mode *hotcore driver*, thus the system reboot is required to complete the installation procedure.

Starting the Program

To start the program, please click the Windows **Start** button and select **Programs > Paragon Partition Manager 9.0**.

The program provides wide opportunities in the field of hard disk structure modification, so just to be on the safe side, please make a backup of your data before carrying out any operation.

The first component that will be displayed is called the *Express Launcher*. In general it enables to run components of the product, launch the help system or go to the program's home page.

Paragon Partition Manager™ 9.0 Professional Edition
Help
About
Partitioning
Copying and Migration
Backup and Rescue
Boot Management
Partitioning
Create Partition
Create a new partition and set its properties
Format Partition
Format a partition to any popular file system
Redistribute Free Space
Increase the size of a volume by taking free space from other volumes or using unallocated disk space
Partition Manager 9.0
Advanced partitioning and hard disk management

But its crucial benefit lies in the way information is offered, namely the well thought-out categorization and hints systems allow the user to find what is needed just in two clicks, while minimizing the possibility of making any mistake.

So, all the product functionality is categorized according to a particular sphere of application, thus by choosing from the list on the left the required issue, the user gets on the right a number of available tasks with easy to catch descriptions.

There are the following issues the program can be used for to tackle:

- **Partitioning** to provide a complete management of your hard disk;
- **Copying and Migration** to successfully transfer all on-disk information;
- **Backup and Rescue** to secure your system and data;
- **Boot Management** to create a dual boot system.

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So choose an item you need and then click on the required operation to start.

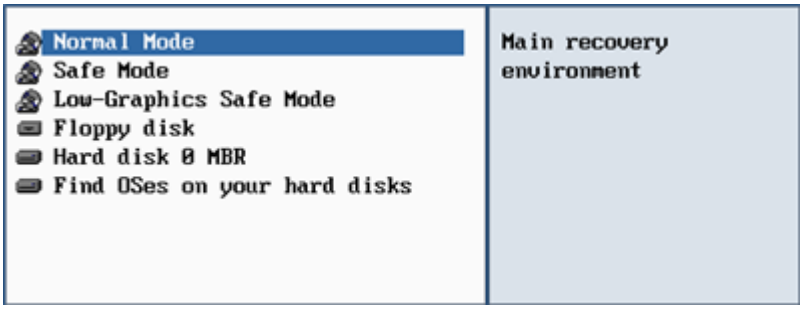
Booting from the Linux/DOS Recovery CD

The Linux/DOS Recovery CD can be used to boot your computer into PTS DOS or Linux to get access to the hard disk without use of the failed operating system.

You also have an option to boot in the PTS DOS safe mode. The reboot of the computer from the Recovery CD in the safe mode may be of great use in a number of non-standard situations such as interfering hardware settings or serious problems on the hardware level. In this case, only basic files and drivers (such as hard disk drivers, a monitor driver, and a keyboard driver) will be loaded.

Boot Menu

After you have inserted the Recovery CD into CD/DVD drive and restarted the computer, the Boot menu appears.



The Boot menu contains the following commands:

- **Normal Mode.** Boot into the Linux normal mode. This mode uses the full set of drivers (recommended).
- **Safe Mode.** Boot into the PTS DOS mode. This mode can be used as an alternative of the Linux normal mode if it fails to work properly.
- **Low Graphics Safe mode.** Boot into the PTS DOS safe mode. In this case, only the minimal set of drivers will be included, like hard disk, monitor, and keyboard drivers. This mode has simple graphics and a simple menu. No partitions mounted.
- **Floppy Disk.** Reboot the computer from a system floppy disk.
- **Hard Disk 0.** Boot from the primary hard disk.
- **Find OS(s) on your hard disks.** The program will scan hard disks of your computer to find any bootable operating system.

To move within the menu, please use the arrow keys of the computer keyboard.

To automatically boot from the Recovery CD make sure the on-board BIOS is set up to *boot from CD first*.

While working with the Recovery CD you might experience some inconvenience caused by possible video artifacts. It is just a result of changing video modes and in no way will affect the program functionality. If this is the case, please wait a bit and everything will be OK.

Normal Mode

When the Normal mode is selected, the Linux launch menu appears:

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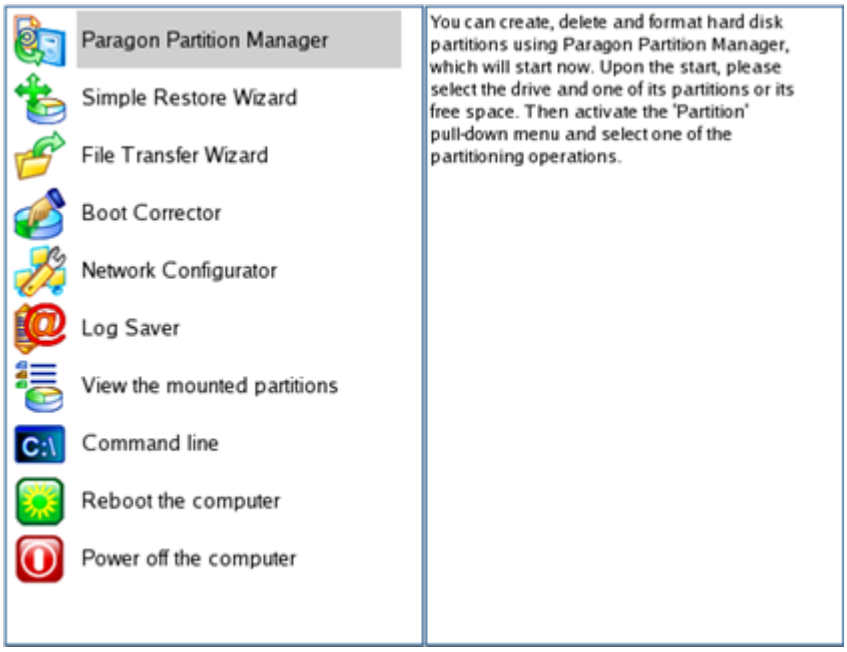
Paragon Partition Manager
Simple Restore Wizard
File Transfer Wizard
Boot Corrector
Network Configurator
Log Saver
View the mounted partitions
Command line
Reboot the computer
Power off the computer
You can create, delete and format hard disk partitions using Paragon Partition Manager, which will start now. Upon the start, please select the drive and one of its partitions or its free space. Then activate the 'Partition' pull-down menu and select one of the partitioning operations.

- **Paragon Partition Manager** (enables to carry out partitioning operations of any complexity, copy and back up separate partitions or entire hard disks, defragment FAT and NTFS volumes, etc.);
- **Simple Restore Wizard** (allows restoring hard disks and partitions);
- **File Transfer Wizard** (allows coping files/folders to another disk or a partition as well as recording them to CD/DVD);
- **Boot Corrector** (helps to correct the Windows System Registry without Windows being loaded);
- **Network Configurator** (starts the Network Configuration Wizard);

If you are going to use network resources, first launch the Network Configuration Wizard to establish a network connection.

- **Log Saver** (helps to collect and send the necessary log files to the Technical Support)
- **View the mounted partitions** (the list of all mounted partitions will be displayed);

Linux/DOS Recovery CD assigns drive letters to partitions the way it is done in DOS, i.e. one after another, primary partitions at first. Thus mounted partitions may have different drive letters from Windows.

- **Command Line** (allows experienced users to execute any operation);
- **Reboot the computer;**
- **Power off the computer.**

To move within the menu, please use the arrow keys of the computer keyboard.

Safe Mode

When the Safe mode is selected, the PTS DOS launch menu appears. It has nearly the same functionality as for the Normal mode except the *Network Configurator* and *Log Saver* commands. Besides due to certain limitations of the PTS DOS environment, there is no possibility to burn CD/DVD disks.

Low Graphics Safe Mode

When the Low Graphics mode is selected, the PTS DOS launch menu appears. It has the same functionality and looks similar to the Safe mode but graphically simpler.

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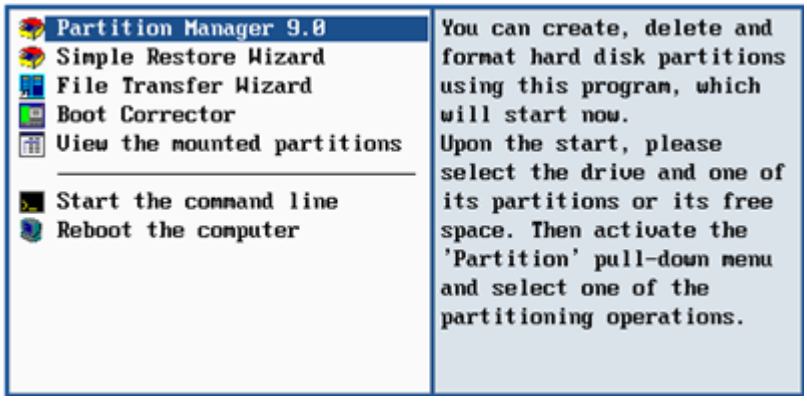
Partition Manager 9.0
Simple Restore Wizard
File Transfer Wizard
Boot Corrector
View the mounted partitions
Start the command line
Reboot the computer
You can create, delete and format hard disk partitions using this program, which will start now.
Upon the start, please select the drive and one of its partitions or its free space. Then activate the 'Partition' pull-down menu and select one of the partitioning operations.

Running Commands

To launch the required command you should take the following steps:

1. Insert Paragon Linux/DOS Recovery CD into your CD/DVD drive;
2. Reboot the computer;
3. Select one of the boot modes (**Normal, Safe, Low Graphics**) in the Boot menu;

By default the *Normal mode* will be automatically initiated after a 10 second idle period.

4. Choose a command by using the arrow keys of the computer keyboard to move within the menu;
5. Launch the command by pressing the *Enter* button.
6. After it has been launched consult the help system by pressing **ALT+F1** to know more on the subject.

To automatically boot from the Recovery CD make sure the on-board BIOS is set up to *boot from CD first.*

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Partitioning

Drive partitioning lets you divide a single physical drive into a number of logical drives, each of which serves as a container with its own drive letter and volume label, thus enabling the operating system to process data more efficiently. Besides partitioning makes it possible to organize data so that it is easy to find and manage. You can set aside, for instance, 40 GB of a 160 GB hard drive for the OS, 70 GB for storing video and another 50 GB for your favorite music collections to provide transparent data storage.

It is also worth mentioning to that with a hard drive properly partitioned, such routine operations as files de-fragmentation or consistency check will not be that annoying and time-consuming any more.

By detaching the OS from the rest of the data you can tackle one more crucial issue – in case of a system malfunction, you can get the system back on track in minutes by recovering it from a backup image located on the other partition of the hard drive.

But that is not all drive partitioning may be used for. If you are willing to play games in Windows while browsing the Internet in Linux, 100-percent sure that no virus will attack your PC, drive partitioning is a necessity. In order to run several OSs on a single hard drive you are to create a corresponding number of partitions to effectively delineate the boundaries of each OS.

Our program offers a wide-range functionality in the field of managing the hard disk structure:

- **Create Partition** to create a new partition by using the *DOS partitioning scheme*;
- **Format Partition** to format a partition to any file system supported by the program;
- **Redistribute Free Space** to assist in increasing free space of one partition at the expense of unallocated space of the disk and unused space of other partitions;
- **Traditional Partition Manager 9.0**. It offers its own interface and covers all the product functionality. Actually it is a set of wizards and operation dialogs which can be started with the help of a handy launcher. Besides thanks to an advanced program engine you can see all changes made to your hard disk in an easy to catch graphical form before they are in fact accomplished thus minimizing the possibility of any mistake.

Create Partition

Creation of partitions is accomplished with the *Create New Partition Wizard*.

Restrictions

1. Do not use the *Create Partition* function in order to undelete the last deleted partition.
2. The program cannot create new partitions on *Dynamic Disks*. The current version of the program supports only hard disks that use the *DOS partitioning scheme* (in Windows 2000 and XP these disks are named *Basic Disks*).
3. According to the rules of the DOS partitioning scheme, the following combinations of partitions cannot be created:
   - Two Extended Partitions on one hard disk
   - Five or more Primary partitions on one hard disk
   - If there is an Extended Partition on the disk, only three Primary partitions are allowed

4. The program allows creating new partitions only within blocks of un-partitioned space. It cannot *convert* a free space on an existing partition to a new partition.

Starting

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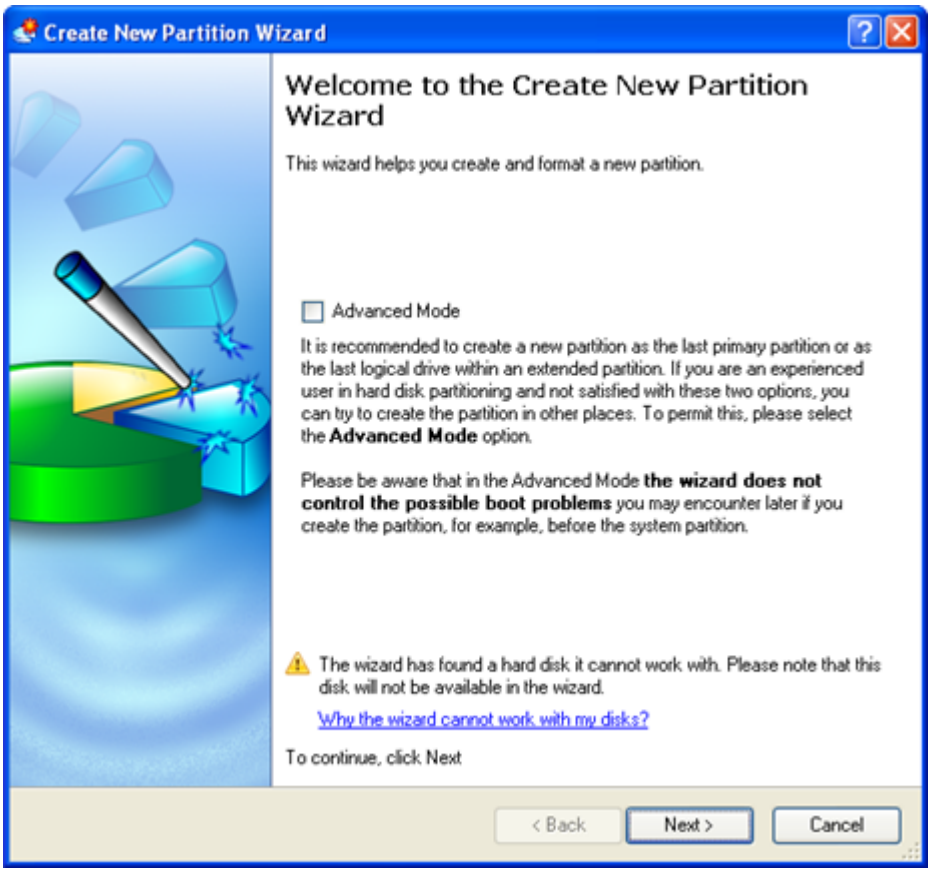
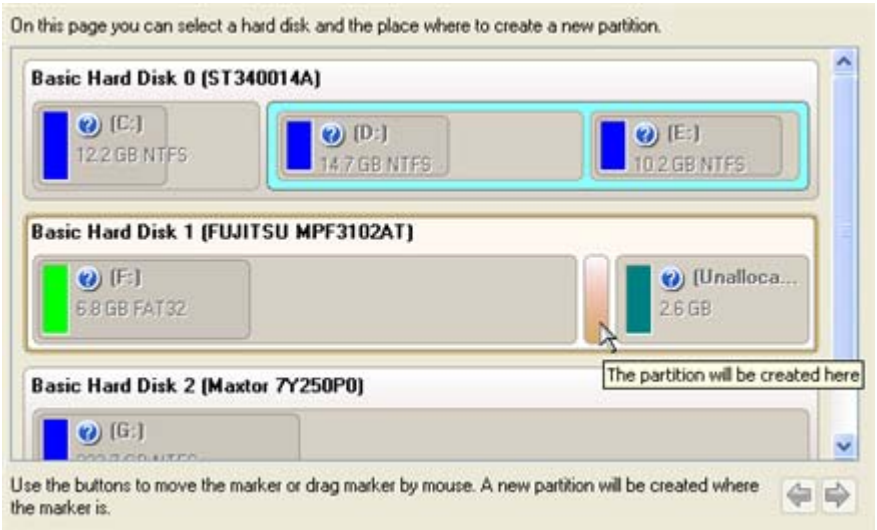
To launch the *Create New Partition Wizard*, click the **Partitioning** button of the *Express Launcher* and select **Create Partition**. After the mentioned action the Welcome page of the wizard will be displayed.


Create New Partition Wizard
Welcome to the Create New Partition Wizard
This wizard helps you create and format a new partition.
Advanced Mode
It is recommended to create a new partition as the last primary partition or as the last logical drive within an extended partition. If you are an experienced user in hard disk partitioning and not satisfied with these two options, you can try to create the partition in other places. To permit this, please select the Advanced Mode option.
Please be aware that in the Advanced Mode the wizard does not control the possible boot problems you may encounter later if you create the partition, for example, before the system partition.
The wizard has found a hard disk it cannot work with. Please note that this disk will not be available in the wizard.
Why the wizard cannot work with my disks?
To continue, click Next
< Back
Next >
Cancel

Settings

The Create New Partition Wizard allows the user to configure the settings and then start the operation in accordance with the entered parameters. Here the user sets the parameters of the operation defining:

- **Partition destination**. Select a hard disk (if the computer has several hard disks) and then choose position for the future partition on the disk: at the end (preferable), at the beginning or somewhere in the middle between other partitions.


On this page you can select a hard disk and the place where to create a new partition.
Basic Hard Disk 0 (ST340014A)
(C:)
12.2 GB NTFS
(D:)
14.7 GB NTFS
(E:)
10.2 GB NTFS
Basic Hard Disk 1 (FUJITSU MPF3102AT)
(F:)
6.8 GB FAT32
(Unalloca...
2.6 GB
The partition will be created here
Basic Hard Disk 2 (Maxtor 7Y250P0)
(G:)
Use the buttons to move the marker or drag marker by mouse. A new partition will be created where the marker is.

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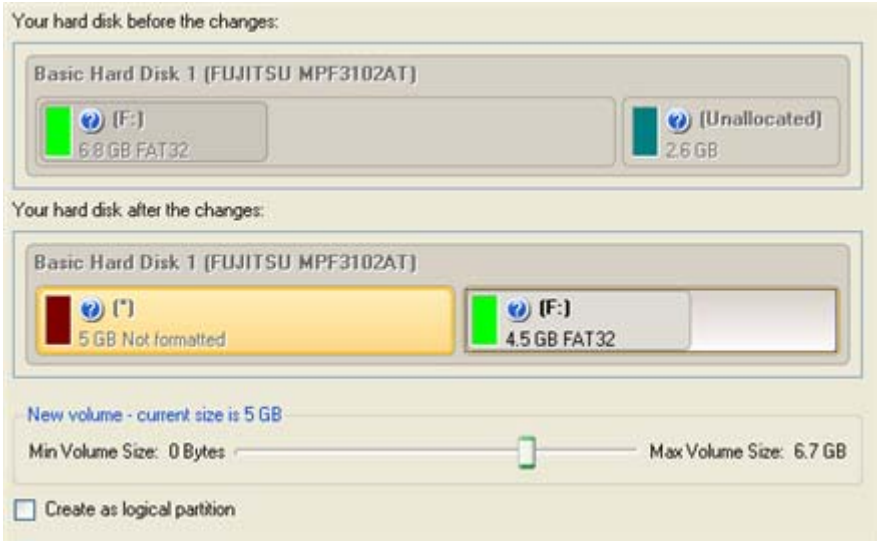
By default, the program allows the user to create a new partition only as the last primary or as the last logical drive within the extended partition. However, by activating the advance mode on the first page of the wizard you can remove this restriction that in its turn might result in some boot problems.

- **Partition size**. There is no restriction on size of the future partition, merely depending on space available on the hard disk.

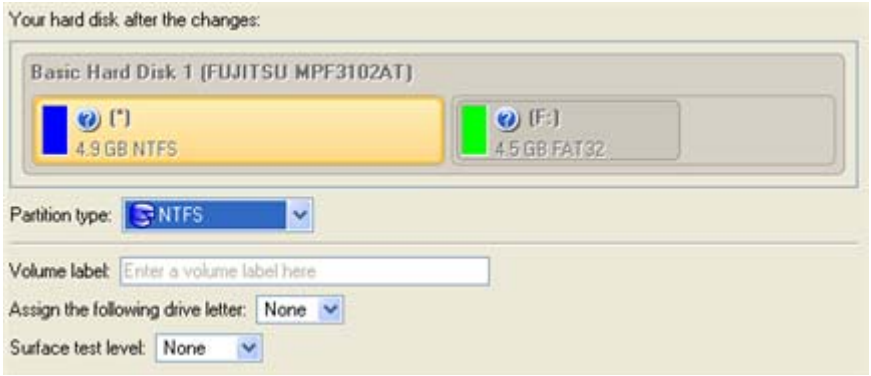
  If there is not enough free space in one block, the wizard enables to redistribute free space, joining all free space blocks together into one united block and moving partitions when necessary. If the total amount of free space is still not enough, it is possible to split a fragment of space from one of the existing partitions, thus resizing it.



If a partition to resize is locked and cannot be processed, the wizard makes the system reboot to create the partition and automatically boots the system again. (The rebooting mechanism is different for different versions of Windows)

You can also choose whether the future partition will be primary or logical by marking the appropriate option.

- **Partition properties**. On the next page of the wizard you can set a number of additional parameters:



- *Partition type*. From the pull-down list select a file system the newly created partition will be formatted to, otherwise the partition will remain unformatted (so that it will not be ready to use).
- *Volume label*. Enter a label for the selected partition in the textual field. The Volume label is an irrelevant parameter usually used for drive identification.

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- *Surface test level*. Define the level of the surface check to make the program find bad and unstable sectors and mark them unusable in the file system metadata.

Results

After the operation is completed the user receives a fully functional partition.

The operation will be performed immediately after confirmation. No virtual mode is available.

Available operation scenarios:

- Creating Dual Boot Systems

Format Partition

Any partition should contain some file system to be used for keeping data. The process of installing a file system is commonly known as formatting. A huge variety of file systems have been developed these days. The program provides the ability to format existing or newly created partitions to the following file systems:

- FAT12 & FAT16
- FAT32
- NTFS
- Ext2
- Ext3
- Linux Swap v. 2
- HPFS

Formatting of partitions is accomplished with the *Format Partition Wizard*.

Starting

To launch the *Format Partition Wizard*, click the **Partitioning** button of the *Express Launcher* and select **Format Partition**. After the mentioned action the Welcome page of the wizard will be displayed.

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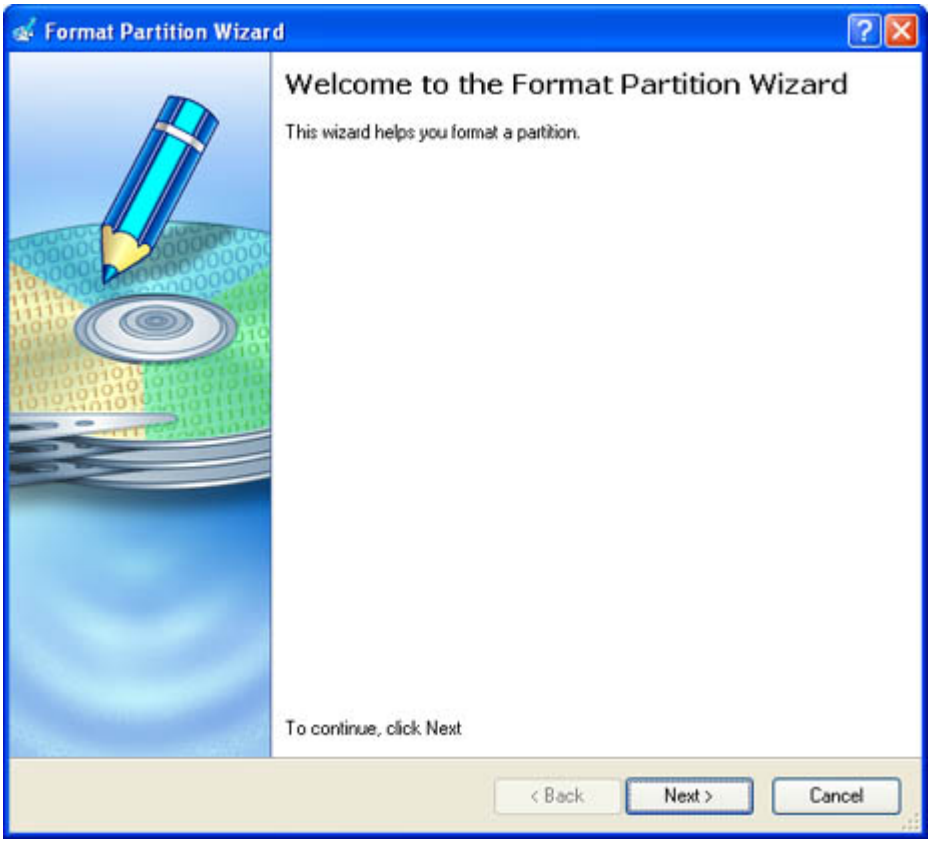
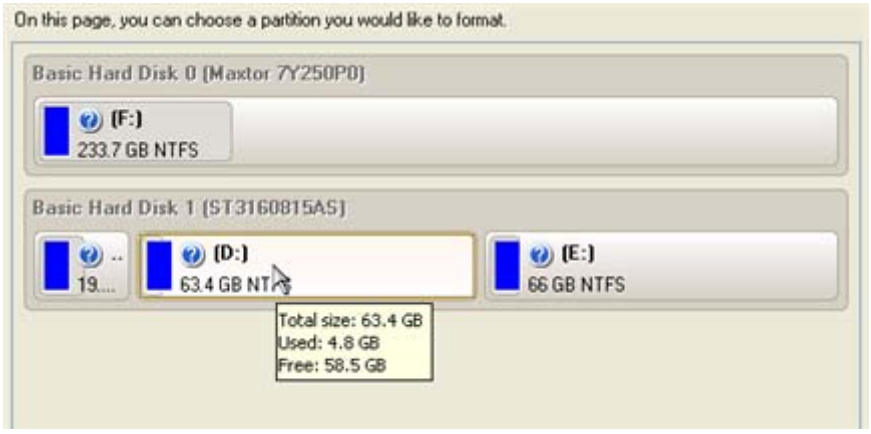

Format Partition Wizard
Welcome to the Format Partition Wizard
This wizard helps you format a partition.
To continue, click Next
< Back
Next >
Cancel

Settings

The Format Partition Wizard allows the user to configure the settings and then start the operation in accordance with the entered parameters. Here the user sets the parameters of the operation defining:

- **Partition to format**. Select a hard disk (if the computer has several hard disks) and then the required partition to format.



As a result of this operation contents of the selected partition will be lost.

- **Partition properties**. On the next page of the wizard you can set the following partition parameters:

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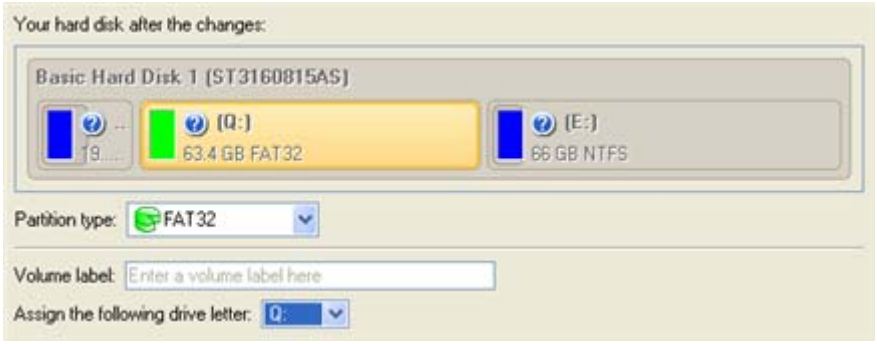
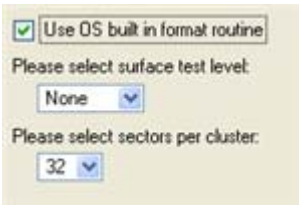


- *Partition type*. From the pull-down list select the desired file system type. In fact, the program displays only those file systems that can correctly be placed to the selected partition, taking its capacity into account.
- *Volume label*. Enter a label in the textual field. It is an irrelevant parameter usually used for drive identification.
- *Drive letter assignment*. The pull-down list contains vacant drive letters that can be associated with the newly formatted partition.

In addition, there is the possibility to make further detailed settings (although the default values will do in most cases). To activate the advance mode, the user needs to mark the appropriate option at the foot of the page

. When it is marked, the next page allows the user to define:



- **Use OS built-in format routine**. Mark the option to restrict the available values according to the used OS.
- **Whether the surface test will be performed**. Mark the option to make the program perform the surface test on the formatted partition. In this case, the program will find bad and unstable sectors and mark them unusable in the file system metadata.
- **The amount of sectors per boot**. This parameter is available exclusively for FAT16 and FAT32 file systems. Set the number of sectors to be reserved for the boot area on the partition with this spinner control.
- **The amount of root entries**. This parameter is available exclusively for FAT16 file system. Set the maximum amount of files/directories to be placed in the Root Directory on the FAT16 partition.
- **The amount of sectors per cluster**. Define the Cluster Size for the formatted partition with this spinner control.

Number of available options depends on the selected file system type.

Results

After the operation is completed the user receives a fully functional partition formatted to the file system specified.

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The operation will be performed immediately after confirmation. No virtual mode is available.

Available operation scenarios:

- Creating Dual Boot Systems

Redistribute Free Space

Redistribution of unused space between partitions is accomplished with the *Redistribute Free Space Wizard*.

Starting

To launch the *Redistribute Free Space Wizard*, click the **Partitioning** button of the *Express Launcher* and select **Redistribute Free Space**. After the mentioned action the Welcome page of the wizard will be displayed.

Redistribute Free Space Wizard
Welcome to the Redistribute Free Space Wizard
This wizard helps you redistribute free space among volumes.
The wizard has found a hard disk it cannot work with. Please note that this disk will not be available in the wizard.
Why the wizard cannot work with my disks?
To continue, click Next
< Back
Next >
Cancel

Settings

The Redistribute Free Space Wizard allows the user to configure the settings and then start the operation in accordance with the entered parameters. Here the user sets the parameters of the operation defining:

- **Partition to enlarge**. Select a partition, the size of which will be increased at the expense of other partitions. Blocks of free space, if any will be automatically added to the target partition.

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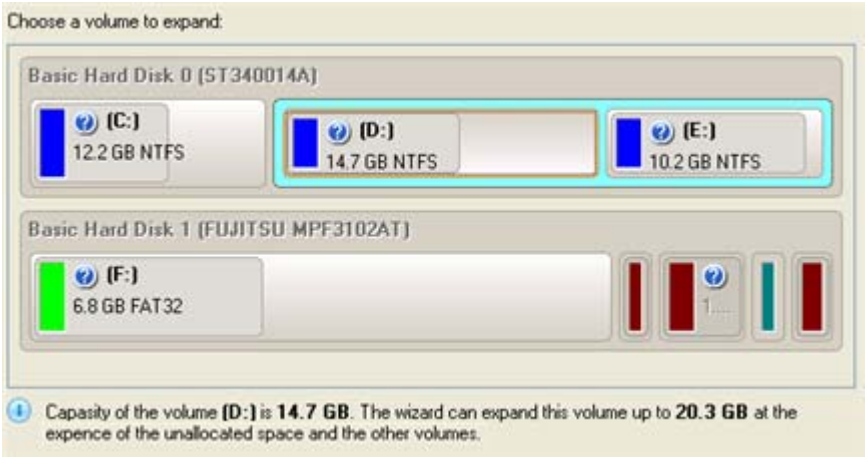
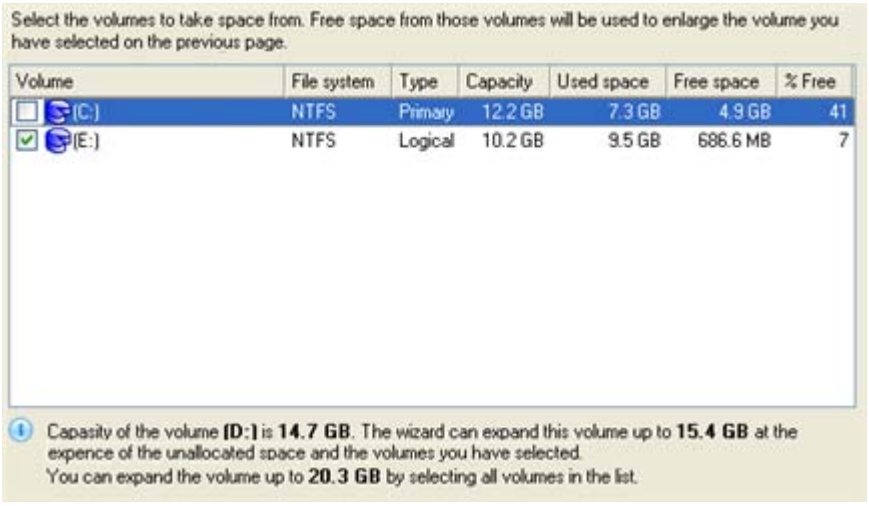
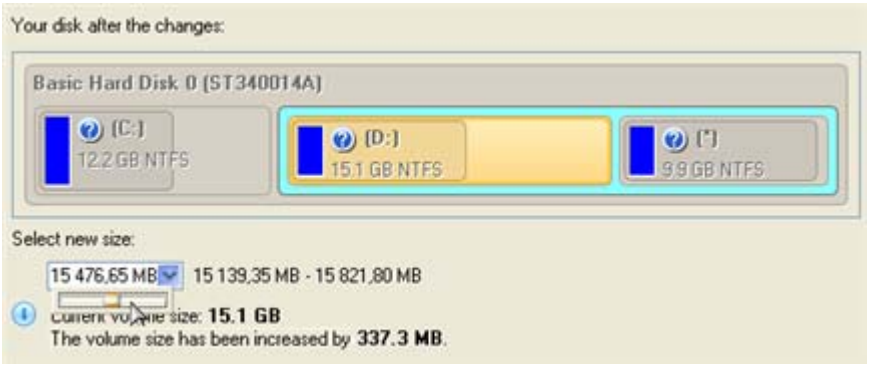

Choose a volume to expand:
Basic Hard Disk 0 (ST340014A)
(C:)
12.2 GB NTFS
(D:)
14.7 GB NTFS
(E:)
10.2 GB NTFS
Basic Hard Disk 1 (FUJITSU MPF3102AT)
(F:)
6.8 GB FAT32
Capasity of the volume (D:) is 14.7 GB. The wizard can expand this volume up to 20.3 GB at the expence of the unallocated space and the other volumes.

- **Partition to donate**. Choose any partition(s) (not only adjacent) to donate free space if available.


Select the volumes to take space from. Free space from those volumes will be used to enlarge the volume you have selected on the previous page.
Volume
File system
Type
Capacity
Used space
Free space
% Free
(C:)
NTFS
Primary
12.2 GB
7.3 GB
4.9 GB
41
(E:)
NTFS
Logical
10.2 GB
9.5 GB
686.6 MB
7
Capasity of the volume (D:) is 14.7 GB. The wizard can expand this volume up to 15.4 GB at the expence of the unallocated space and the volumes you have selected.
You can expand the volume up to 20.3 GB by selecting all volumes in the list.

- **Partition size**. By default, the program leaves 50% of the unused space on a partition and removes another 50% to add it to the target partition. However, the size to take can be customized by moving the slider at the bottom of the page or manually entering the exact value.



Results

After the operation is completed free space of the specified partition will be increased by using unallocated space of the hard disk and/or at the expense of unused space of the other partitions.

The operation will be performed immediately after confirmation. No virtual mode is available.

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Traditional Partition Manager 9.0

In order to carry out advanced partitioning and hard disk management, click the **Partitioning** button of the *Express Launcher* and select **Partition Manager 9.0**.

To know more on the subject, please consult the help system by pressing *F1*.

Available operation scenarios:

- Creating Dual Boot Systems

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Copying and Migration

Many people clone hard disks and partitions just to back up data for security reasons as it enables to successfully transfer all on-disk information including standard bootstrap code and other system service structures, thus maintaining the operating system's working capability. In case of a system malfunction, the user can get the system back on track in minutes. No additional configuration is required, what is very convenient.

The second possible application is the upgrade of a hard disk to a new one. The capacity of a modern hard drive doubles every two years, thus opening up new possibilities for software developers. As a result programs become more complicated and require considerable amount of free space. One day the user realizes that there is no more free space left on the hard disk and the only way out is to upgrade. Usually that means that besides purchasing a new hard disk, the user is to face a large re-installation procedure spanning several days of tedious work. But all of this can be avoided just by copying the contents of the old hard disk to a new one proportionally resizing the partitions.

And the last but not least is the copying of hard disks for cloning purposes. It may be of great use when setting up similar computers. There is no need for a system administrator to install an operating system from scratch on every one of them. It is enough just to configure one and then clone it to the others.

Our program offers a number of copy facilities:

- **Copy Hard Disk** to successfully transfer all on-disk information including standard bootstrap code and other system service structures;
- **Copy Partition** to duplicate all partition data including files, the exact structure of directories and file system metadata (location of files, security information, access quotas, etc.).

Copy Hard Disk

Cloning of a hard disk can be accomplished with the *Copy Hard Disk Wizard*.

You need at least two hard disks to carry out this operation and it cannot be substituted by simply copying all on-disk partitions.

Starting

To launch the *Copy Hard Disk Wizard*, click the **Copying and Migration** button of the *Express Launcher* and select **Hard Disk Migration**. After the mentioned action the Welcome page of the wizard will be displayed.

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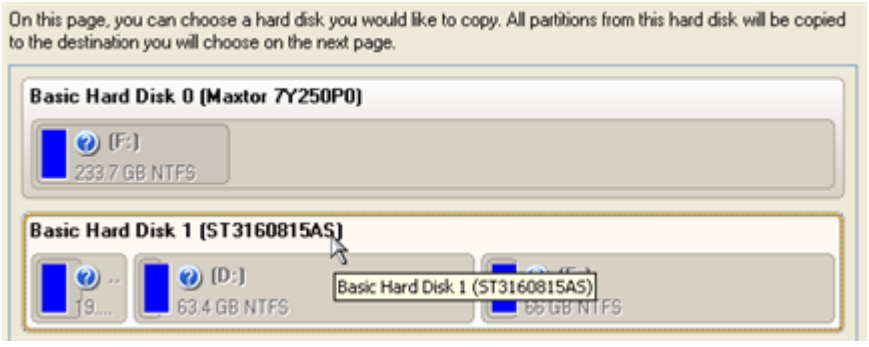
Copy Hard Disk Wizard
Welcome to the Copy Hard Disk Wizard
This wizard helps you to create a copy of a hard disk.
To continue, click Next
< Back
Next >
Cancel

Settings

The Copy Hard Disk Wizard allows the user to configure the settings and then start the operation in accordance with the entered parameters. Here the user sets the parameters of the operation defining:

- **The hard disk to copy**. Select a hard disk you want to copy.


On this page, you can choose a hard disk you would like to copy. All partitions from this hard disk will be copied to the destination you will choose on the next page.
Basic Hard Disk 0 (Maxtor 7Y250P0)
(F:)
233.7 GB NTFS
Basic Hard Disk 1 (ST3160815AS)
(D:)
63.4 GB NTFS
Basic Hard Disk 1 (ST3160815AS)

- **The target hard disk**. Select a hard disk (if several) where all data of the source disk will be copied to.

Select a target hard disk. All data from the source hard disk will be copied there. During the copy operation the target disk content will be deleted.
Basic Hard Disk 0 (Maxtor 7Y250P0)
(F:)
233.7 GB NTFS
Basic Hard Disk 0 (Maxtor 7Y250P0)

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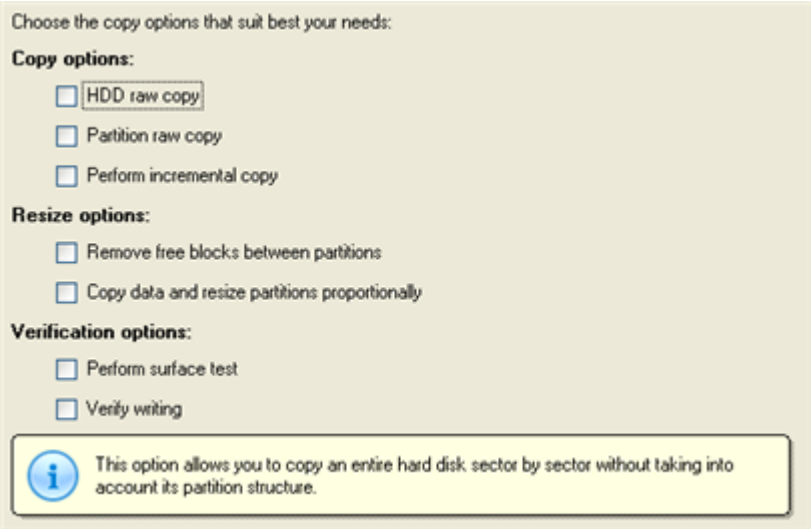
- **Copy parameters**. The Copy Hard Disk Wizard allows the user to specify the following options:


Choose the copy options that suit best your needs:
Copy options:
HDD raw copy
Partition raw copy
Perform incremental copy
Resize options:
Remove free blocks between partitions
Copy data and resize partitions proportionally
Verification options:
Perform surface test
Verify writing
This option allows you to copy an entire hard disk sector by sector without taking into account its partition structure.

Copy options
- *HDD raw copy* to copy a hard disk in the sector-by-sector mode to successfully process unknown file systems.
- *Partition raw copy* to copy a partition in the sector-by-sector mode to successfully process unknown file systems.
- *Perform incremental copy* to make the program perform the exact bit-wise comparison of the previous data (saved in the parental copy) with the current data (that is actually the hard disk itself). After that only most recent information will be processed. It considerably decreases the amount of data written.

Perform Incremental Copy function is not available for the _Personal_ version of the program. To know more on the subject, please consult the Partition Manager Editions chapter.

Resize options
- *Remove free blocks between partitions*. If this option is activated, the program does not keep blocks of free space between partitions on the targeted hard disk.
- *Copy data and resize partitions proportionally*. If this option is activated, the program proportionally changes the size of partitions keeping their relative order intact. The option can be useful when upgrading the hard disk to a larger one.

Verification options
This section allows the user to define whether the *Surface* and/or the *Writing verification* tests will be accomplished during the operation.

Results

After the operation is completed the user receives a fully functional duplicate of the existing hard disk.

The operation will be performed immediately after confirmation. No virtual mode is available.

Available operation scenarios:

- System Hard Disk Migration

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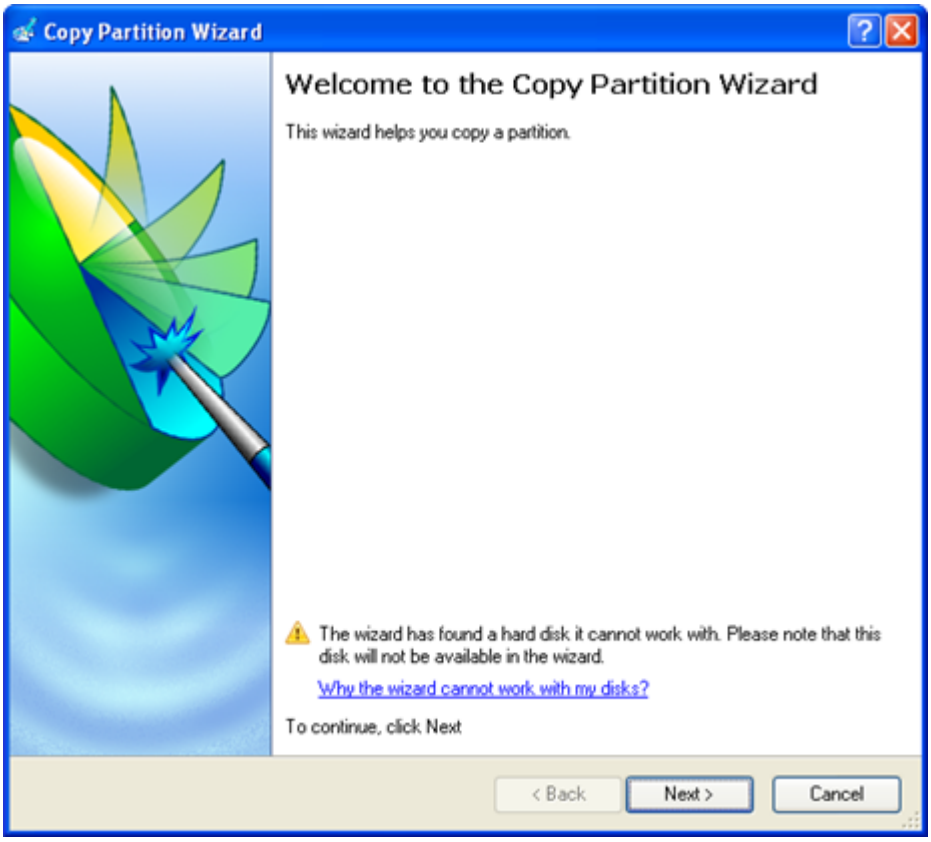
Copy Partition

Cloning of a partition can be accomplished with the *Copy Partition Wizard*.

You need a hard disk with enough unallocated space to carry out this operation.

Starting

To launch the *Copy Partition Wizard*, click the **Copying and Migration** button of the *Express Launcher* and select **Copy Partition**. After the mentioned action the Welcome page of the wizard will be displayed.


Copy Partition Wizard
Welcome to the Copy Partition Wizard
This wizard helps you copy a partition.
The wizard has found a hard disk it cannot work with. Please note that this disk will not be available in the wizard.
Why the wizard cannot work with my disks?
To continue, click Next
< Back
Next >
Cancel

Settings

The Copy Partition Wizard allows the user to configure the settings and then start the operation in accordance with the entered parameters. Here the user sets the parameters of the operation defining:

- **The partition to copy**. Select a partition you want to copy.

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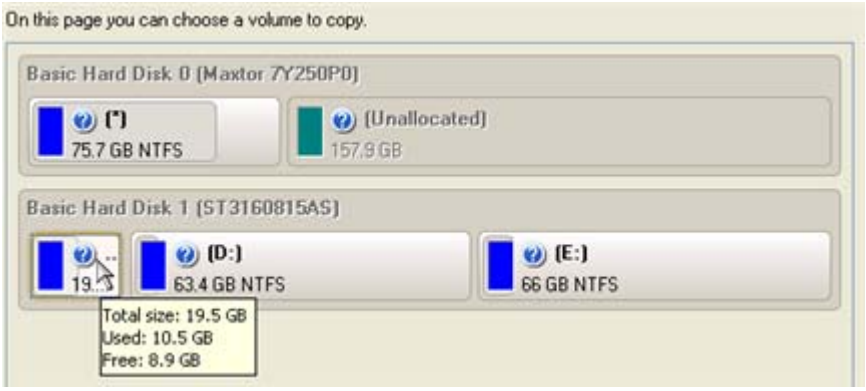
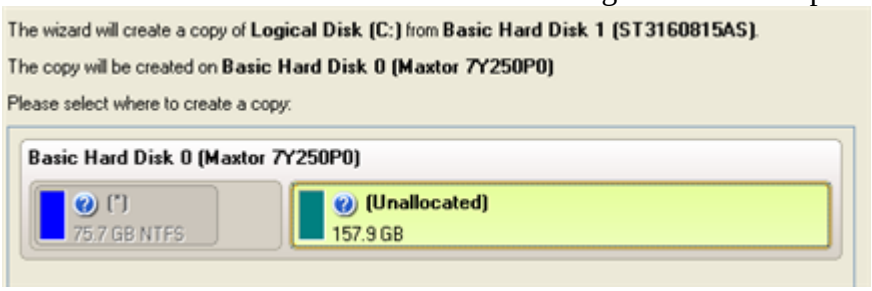
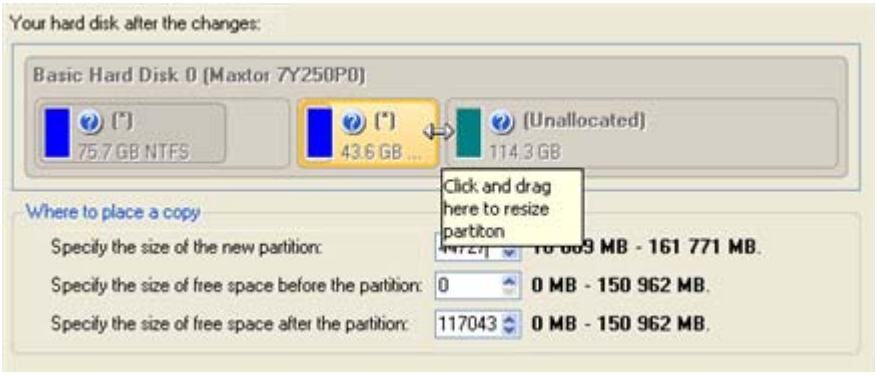


- **Destination disk**. Select a hard disk with enough unallocated space to perform the operation.


The wizard will create a copy of Logical Disk (C:) from Basic Hard Disk 1 (ST3160815AS).
The copy will be created on Basic Hard Disk 0 (Maxtor 7Y250P0)
Please select where to create a copy:
Basic Hard Disk 0 (Maxtor 7Y250P0)
(*)
75.7 GB NTFS
(Unallocated)
157.9 GB

The program enables to copy a partition to a block of free space, which is smaller than the partition itself, taking into account only actual amount of data.

- **Copy parameters**. The Copy Partition Wizard allows the user to specify the following options:


Your hard disk after the changes:
Basic Hard Disk 0 (Maxtor 7Y250P0)
(*)
75.7 GB NTFS
(*)
43.6 GB ...
(Unallocated)
114.3 GB
Click and drag here to resize partiton
Where to place a copy
Specify the size of the new partition:
Specify the size of free space before the partition:
0
0 MB - 150 962 MB.
Specify the size of free space after the partition:
117043
0 MB - 150 962 MB.

- **Partition size**. Define the size (in Mb) of the copied partition.
- **Free space before**. Define the position (in Mb) of the copied partition relative to the beginning of the available range of disk space.
- **Free space after**. Define the amount of trailing free space (in Mb) at the end of the available range of disk space.

Partition size and position may also be defined by using the drag-and-drop technique. To do that, just carry out the required operation on the Disk Map.

Results

After the operation is completed the user receives a fully functional duplicate of the existing partition.

The operation will be performed immediately after confirmation. No virtual mode is available.

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Backup and Rescue

The data protection issue is a growing cause of worrying for more and more people today. Indeed, it is hardly to find a person who will be particularly happy when all precious information on the hard disk is irreversible lost as a result of its malfunction. So how can this tragedy be prevented?

Our program offers a number of facilities to establish an effective data protection system:

- **Simple Backup**. The most reliable way of data protection for the hard disk is the ability to create archive duplications. A modern backup archive uses the so-called *image*, a snapshot of the whole disk system (or its separate partitions). It not only includes the contents of all user-made files, but additionally contains the exact structure of directories, information about file allocation, file attributes and other related data. Thus it enables to recover the system with all its contents into its initial state without any additional efforts.
- **Simple Restore**. Actually it is the reverse of the backup operation, thus without having a previously made backup image, you will not be able to use it. However it is the most efficient and easy to use way to recover the system and data.

***Restore* function is only available for Linux/DOS and WinPE Recovery CDs.**

- **Transfer Files**. With the *File Transfer Wizard* the user can retrieve important data from a failed hard disk and copy it to another hard disk or burn it to CD/DVD before reinstalling the system or replace damaged files by using a previously made backup image.
- **Burn Rescue Kit**. The program provides the possibility to prepare a set of recovery tools on external media (CD, DVD or floppy disks). The tool set can be of assistance in case of an operating system corruption, which means that the user is able to boot the computer even when the operating system is not able to do so.

Creating Backup Images

Creation of backup images is accomplished with the *Simple Backup Wizard*.

Starting

To launch the *Simple Backup Wizard*, click the **Backup and Rescue** button of the *Express Launcher* and select **Simple Backup**. After the mentioned action the Welcome page of the wizard will be displayed.

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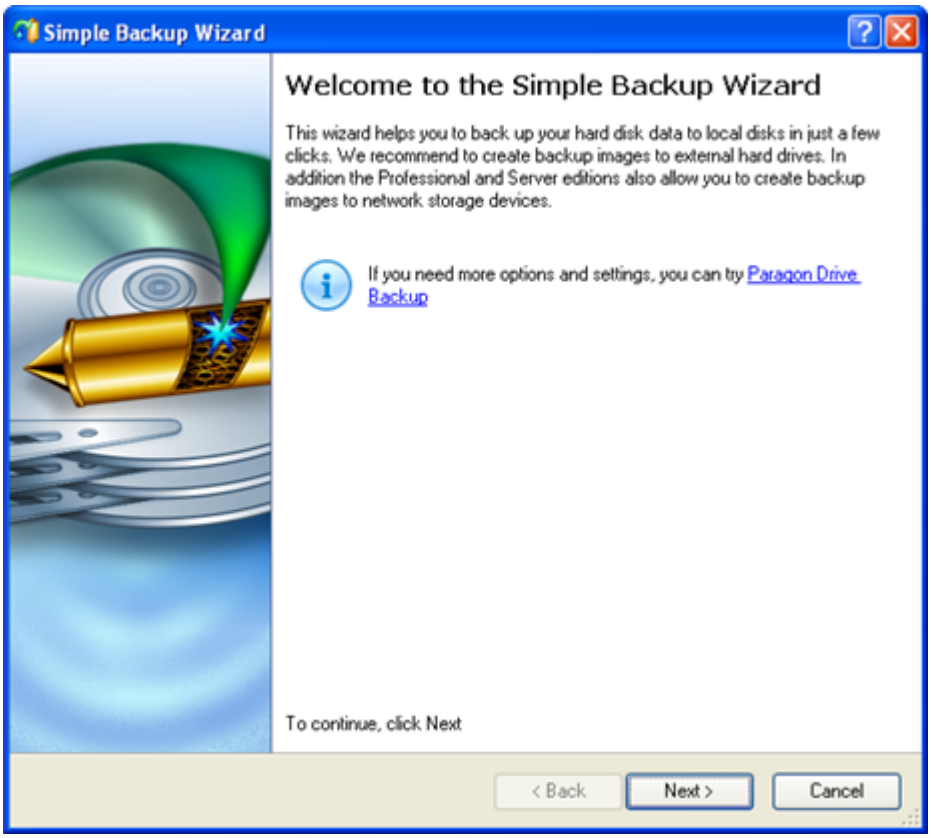
Simple Backup Wizard
Welcome to the Simple Backup Wizard
This wizard helps you to back up your hard disk data to local disks in just a few clicks. We recommend to create backup images to external hard drives. In addition the Professional and Server editions also allow you to create backup images to network storage devices.
If you need more options and settings, you can try Paragon Drive Backup
To continue, click Next
< Back
Next >
Cancel

In Paragon Drive Backup the company offers a number of more sophisticated solutions of data and system backup. To know more on the subject, please follow the link on the first page of the wizard.

Settings

The Simple Backup Wizard allows the user to configure the settings and then start the operation in accordance with the entered parameters. Here the user sets the parameters of the backup operation defining:

- **The object to back up**. The user can backup either an entire disk or separate partitions of the disk (primary, extended or logical). In case of backing up an entire disk, the user has the possibility to include into the image such disk elements as the Master Boot Record (MBR) and the first track of the hard disk. This can be very helpful for serious disk recovery procedures.

- **Backup destination**. The Simple Backup Wizard allows saving backup archives to local or network drives. The user needs to select a destination, taking the estimated archive size and available space on the backup destination into account. The program automatically offers an

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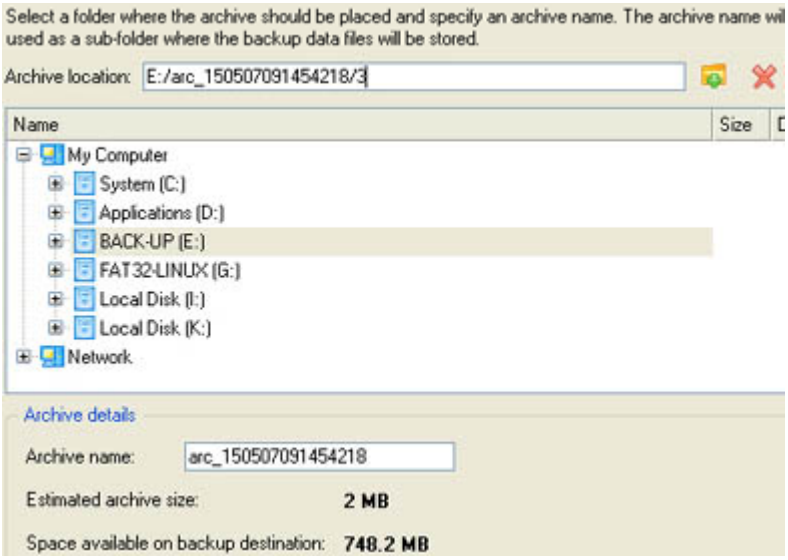
easy to understand name containing the date and the time of the archive creation, which can anyway be modified.


Select a folder where the archive should be placed and specify an archive name. The archive name wi
used as a sub-folder where the backup data files will be stored.
Archive location: E:/arc_150507091454218/3
Name
Size
My Computer
System (C:)
Applications (D:)
BACK-UP (E:)
FAT32-LINUX (G:)
Local Disk (I:)
Local Disk (K:)
Network
Archive details
Archive name: arc_150507091454218
Estimated archive size: 2 MB
Space available on backup destination: 748.2 MB

The program automatically calculates size of the future archive and informs the user about space available on the selected destination.

***Backup to a Network Drive* function is not available for the *Personal* version of the program. To know more on the subject, please consult the Partition Manager Editions chapter.**

Results

After the backup operation is completed the user receives an image of the selected disk (or the selected partition). This image is placed into the specified destination (a local or network disk), its features defined by the wizard.

The operation will be performed immediately after confirmation. No virtual mode is available.

Available operation scenarios:

- Backup to a Local Partition
- Backup to a Network Drive

Transferring Files

File Transfer Wizard is designed to make such operations as copying of separate files/directories or burning of them to CD/DVD as easy and convenient as possible. Besides it provides access to Paragon backups as regular folders to browse through their contents or copy required files.

Starting

To launch the *File Transfer Wizard*, click the **Backup and Rescue** button of the *Express Launcher* and select **Transfer Files**. After the mentioned action the Welcome page of the wizard will be displayed.

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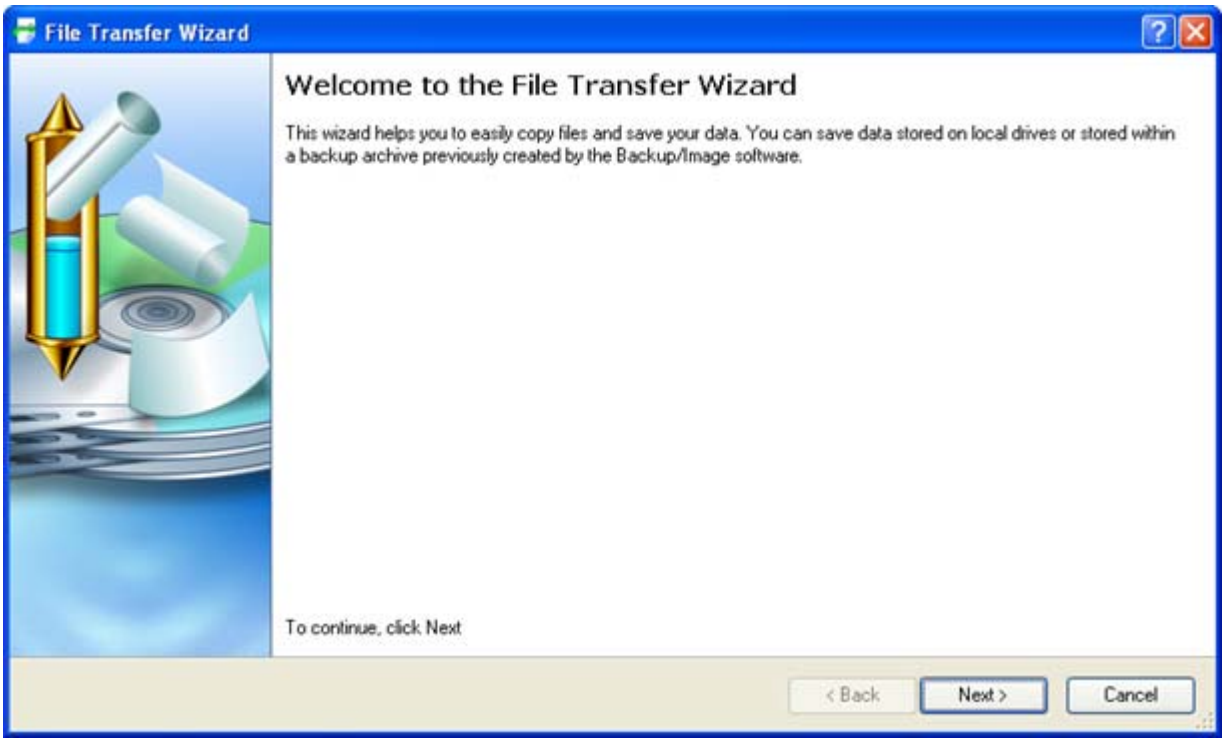
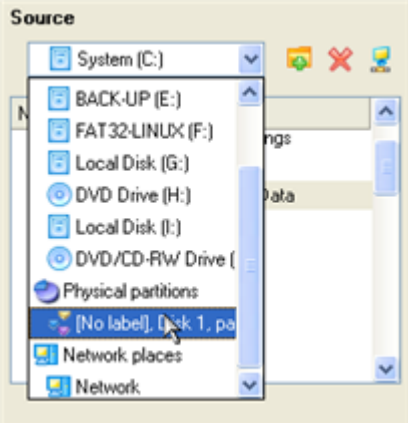

File Transfer Wizard
Welcome to the File Transfer Wizard
This wizard helps you to easily copy files and save your data. You can save data stored on local drives or stored within a backup archive previously created by the Backup/Image software.
To continue, click Next
< Back
Next >
Cancel

Settings

The File Transfer Wizard allows the user to configure the settings and then start the operation in accordance with the entered parameters. Here the user sets the parameters of the operation defining:

- **Place to look for files/directories**. Select a source disk from the pull-down list in the right pane of the page. The program enables to process both mounted and unmounted (without drive letter assigned) partitions. Besides it is possible to map a network drive.



- **Object(s) of operation**. Choose files/directories you want to copy and place them to Clipboard by pressing the *Add* button. To delete a file/directory from the Clipboard, select it in the Clipboard pane and press the *Remove* button. You can also create a new folder, rename or irreversibly delete existing files/directories of the left pane by pressing the appropriate buttons.

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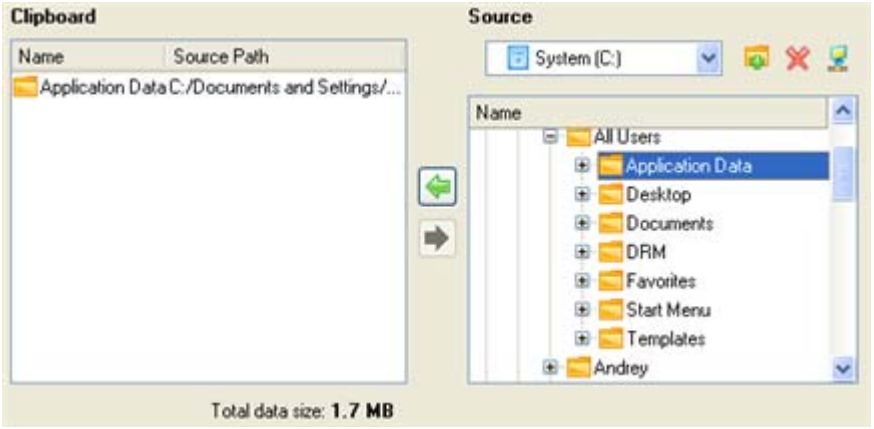
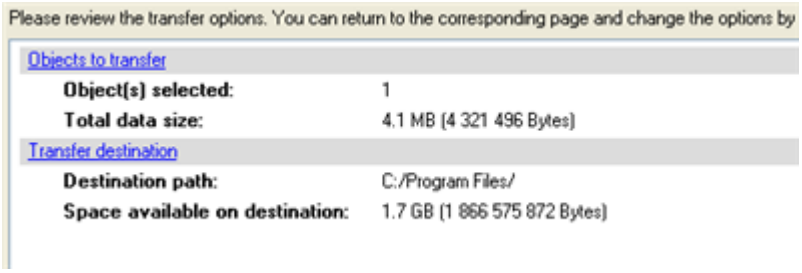


Files/directories deleted from the Clipboard remain intact on source disks.

- **Destination to store the object(s)**. The File Transfer Wizard allows copying data to local or network drives, to physical partitions (without drive letters assigned), or burning them to CD/DVDs. Choose the way the data will be stored.

There are several ways the Wizard can store your data. Plese select how
Save data to local/network drives.
Save data to physical partitions.
Burn the data to CD or DVD.

- **Revision of changes**. The *Operation Summary* page provides structurally divided information on all the actions made in the wizard. Check the changes and come back to any of the steps of the wizard to correct them (if necessary) by following the required hyperlink.


Please review the transfer options. You can return to the corresponding page and change the options by
Objects to transfer
Object(s) selected: 1
Total data size: 4.1 MB (4 321 496 Bytes)
Transfer destination
Destination path: C:/Program Files/
Space available on destination: 1.7 GB (1 866 575 872 Bytes)

Results

The wizard will transfer files/folders to the specified destination (a local or network disk or a CD/DVD disc).

The operation will be performed immediately after confirmation. No virtual mode is available.

***File Transfer Wizard* is not available for the *Personal* version of the program. To know more on the subject, please consult the Partition Manager Editions chapter.**

Available operation scenarios:

- Copying of data from the corrupted system disk to another hard disk
- Burning of data from the corrupted system disk to CD/DVD

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- Copying of data from a backup to the corrupted system partition

Building Recovery Media

Creation of bootable recovery media is performed with the *Recovery Media Wizard*.

Starting

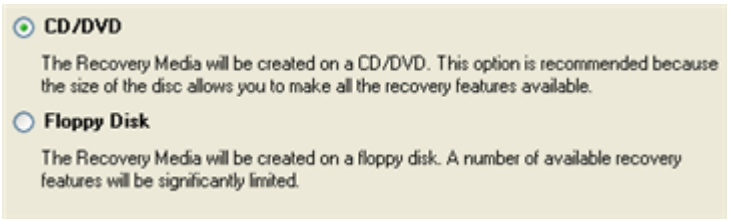
To launch the *Recovery Media Wizard*, click the **Backup and Rescue** button of the *Express Launcher* and select **Burn Rescue Kit**. After the mentioned action the Welcome page of the wizard will be displayed.

Recovery Media Builder
Welcome to the Recovery Media Builder
Recovery Media Builder helps you create the Recovery Media which you can use to boot your computer from in case your operating system cannot boot any more. The Recovery Media contains the main components of the product and allows you to perform most of its recovery operations.
To continue, click Next.
< Back
Next >
Cancel

Settings

The Recovery Media Wizard allows the user to configure the settings and start the operation in accordance with the entered parameters. In our case we set the parameters of the future recovery tool by defining:

- **Type of the recovery media the user is creating**. The recovery tools can be placed either on a CD/DVD disc or on a floppy disk.


CD/DVD
The Recovery Media will be created on a CD/DVD. This option is recommended because the size of the disc allows you to make all the recovery features available.
Floppy Disk
The Recovery Media will be created on a floppy disk. A number of available recovery features will be significantly limited.

- **Contents of the recovery set**. The recovery tools can include the standard Recovery Media image (included in the installation package) or software defined by the user. In the last case the user can record a prepared image by setting the path to the image file on the disk.

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Typical
Use the standard Recovery Media image supplied with the program.
Advanced
You can add some files or folders to the standard Recovery Media image supplied with the program.
User specified CD/DVD image (.iso file)
Use a CD/DVD image from a specific location.
gram Files/Paragon Software/Partition Manager 9.0 Professional/ISO/bootcd.iso
Browse

- **A recording device**. The appropriate external media (CD/DVD or a floppy disk) needs to be inserted into the selected device.
- **CD/DVD writing parameters** (in case the user selects this kind of media). Writing parameters include writing speed (maximum or minimum) and the ability of ejecting the recorded disc after completing the operation.

The program supports CD-R, CD-RW, DVD-R, DVD+R, DVD-RW, DVD+RW and also DVD-R, DVD+R double layer discs. If the inserted disc is not empty, the Wizard suggests the user erasing its contents. When the user confirms the operation, the program deletes the re-writable disc's contents and begins the recording process.

Results

As a result, the user receives recovery media, which can be used in most emergencies.

The operation will be performed immediately after confirmation. No virtual mode is available.

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Boot Management

Many PC users today feel the need for having several operating systems on one computer. It has to do with a number of factors, one of which is the rapidly developing IT market itself that makes people constantly upgrade their operating systems. But it is a common practice that when dealing with a brand new OS, the majority of applications either fail to run or work incorrectly on it (as it is the case with Windows Vista). Of course, you might wait for software updates or just refuse to use the latest OS for a while and install the older version, but the best way out is to have at the disposal both versions of the same product. After all you might just want to try out the latest version of OS, as you seriously doubt the need of it.

Our program enables to easily manage several operating systems on one computer with the help of the Boot Manager Setup Wizard. Among the key features of the wizard the following should be mentioned:

- Up to 16 operating systems on one PC;
- Secure adding/removing of the Boot Manager startup record to/from the MBR;
- *Auto Boot* option to automatically start up the previously chosen OS after a certain time period;
- Hiding of any primary partition except selected at the moment.

Starting

To launch the *Boot Manager Setup Wizard*, click the **Boot Management** button of the *Express Launcher* and select **Boot Manager**. After the mentioned action the Welcome page of the wizard will be displayed.

Boot Manager Setup Wizard
Welcome to the Boot Manager Setup Wizard
This wizard helps you to activate, deactivate, and configure the Boot Manager.
To continue, click Next.
< Back
Next >
Cancel

Settings

The *Boot Manager Setup Wizard* allows the user to configure the settings and then start the operation in accordance with the entered parameters. Here the user should set the following parameters:

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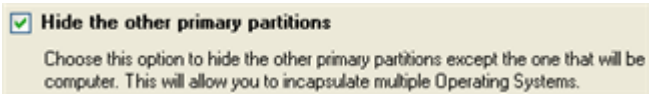
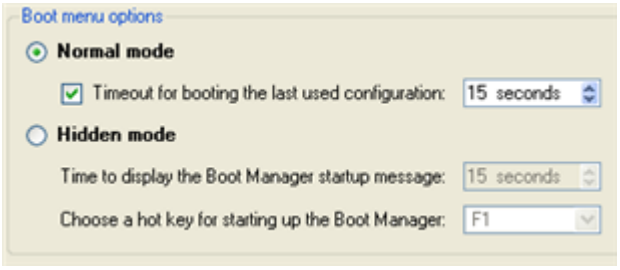
- **Hiding other primary partitions**. By marking this option the program will automatically assign the hidden flag to all primary partitions of the hard disk(s) except the one selected to boot. This will help to avoid any problems when dealing with different operating systems or different versions of one and the same OS, as they will be unaware of each other.


Hide the other primary partitions
Choose this option to hide the other primary partitions except the one that will be computer. This will allow you to incapsulate multiple Operating Systems.

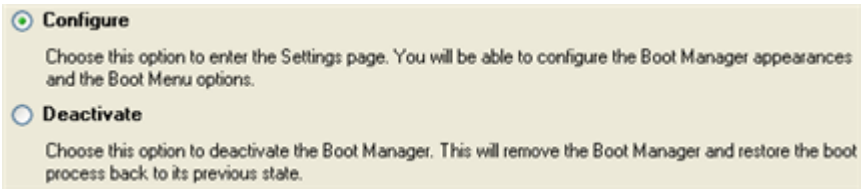
- **Boot menu options**. In this section the user can switch between the following modes:

  - *Normal mode*. Choose this mode to display the boot menu every time the computer starts up and define a timeout on the expiry of which the program will automatically select the previously chosen item of the menu.

  - *Hidden mode*. Choose this mode not to display the boot menu until pressing a hot key. For this mode the user should define a *hot key* used to enable the Boot Manager and a *time period* in seconds the startup message will be displayed.


Boot menu options
Normal mode
Timeout for booting the last used configuration:
15 seconds
Hidden mode
Time to display the Boot Manager startup message:
15 seconds
Choose a hot key for starting up the Boot Manager:
F1

- **Deactivating/Configuring the Boot Manager**. These two options will only be available once the wizard has been completed and launched again. Select the **Deactivate** option to remove the Boot Manager from the MBR (Master Boot Record) or **Configure** to modify the previously set parameters of the startup process.


Configure
Choose this option to enter the Settings page. You will be able to configure the Boot Manager appearances and the Boot Menu options.
Deactivate
Choose this option to deactivate the Boot Manager. This will remove the Boot Manager and restore the boot process back to its previous state.

Results

After the Boot Manager Setup Wizard is completed the program updates the original record in the MBR to get control of the booting process and to be able to display the boot menu.

The operation will be performed immediately after confirmation. No virtual mode is available.

Available operation scenarios:

- Creating Dual Boot Systems

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Typical Scenarios

This chapter lists a number of the most frequently used scenarios that may be accomplished with the program. The user can find here useful recommendations and descriptions of operations.

Backup Scenarios

Backup to a Local Partition

To save a backup archive on a local mounted (drive letter assigned) partition with the Simple Backup Wizard, simply do the following:

1. Launch the **Backup Wizard** by clicking the **Backup and Rescue** button of the *Express Launcher* and then selecting the **Simple Backup** item.
2. On the Wizard's Welcome page, click the *Next* button.
3. On the **What to back up** page, mark the appropriate option opposite a hard disk's name or a partition's name depending on the chosen task. Click the *Next* button.
4. On the **Backup Destination** page, select **a local mounted (drive letter assigned) disk** as a backup destination.

Please take into account values of the parameters *Estimated archive size* and *Space available on backup destination* - if the archive size exceeds the available space, another drive needs to be selected.

5. **Edit the archive name** if necessary and click the *Next* button to start the backup process.

Backup to a Network Drive

To save a backup archive on a network drive with the Simple Backup Wizard, simply do the following:

1. Launch the **Backup Wizard** by clicking the **Backup and Rescue** button of the *Express Launcher* and then selecting the **Simple Backup** item.
2. On the Wizard's Welcome page, click the *Next* button.
3. On the **What to back up** page, mark the appropriate option opposite a hard disk's name or a partition's name depending on the chosen task. Click the *Next* button.
4. On the **Backup Destination** page, select **a network disk** (it must be mounted and be available in the system by a drive letter).

Please take into account values of the parameters *Estimated archive size* and *Space available on backup destination* - if the archive size exceeds the available space, another network drive needs to be selected.

5. **Edit the archive name** if necessary and click the *Next* button to start the backup process.

***Backup to a Network Drive* function is not available for the *Personal* version of the program. To know more on the subject please consult the Partition Manager Editions chapter.**

Recovery Scenarios

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Restoring from a Local Partition

To restore a hard disk/partition from the backup image situated on a local mounted (drive letter assigned) partition, simply do the following:

WinPE Recovery CD

1. **Insert** **Paragon WinPE Recovery CD** (the BIOS must be enabled to boot the system from the CD/DVD device).
2. **Restart** the computer.
3. Launch the **Restore Wizard** by clicking the **Backup and Rescue** button of the *Express Launcher* and then selecting the **Simple Restore** item.
4. On the Restore Wizard's Welcome page, click the *Next* button.
5. On the **Browse for Archive** page, select the required archive in the browser-like window. The *Archive File Details* section displays a short description of the selected image. Click the *Next* button.
6. The **What to Restore** page displays detailed information about the contents of the archive. It includes a full description of properties about the archived disks or partitions. In case you have a complex archive, select the required item to restore.
7. On the **Where to Restore** page select a place you would like to restore the archive to.
8. On the **Restore Results** page review all parameters of the operation and modify them if necessary. Click the *Next* button to start the restore process.
9. After completing the operation **reboot the computer**.

Linux/DOS Recovery CD

1. **Insert** **Paragon Linux/DOS Recovery CD** (the BIOS must be enabled to boot the system from the CD/DVD device).
2. **Restart** the computer.
3. **Set up a network connection** by selecting the **Network Configurator** item of the main menu.
4. Launch the **Simple Restore Wizard**. Click the *Next* button on the Welcome page.
5. On the **What to Restore** page, either type the **full path to the backup image of the disk, which you are going to restore**, or click the standard browse button **[...]** to find it. Click the *Next* button.
6. On the **Image Properties** page, **make sure that you select the correct image** viewing the provided information about the archive. When the archive has been chosen, click the *Next* button.
7. On the disk layout map, **select a disk**, to be restored. Click the *Next* button.
8. **Set the size of the partition**. The user can compress or expand it at the expense of available unused space. Click the *Next* button.
9. Click the *Finish* button to initiate the restoring process.
10. After completing the operation **reboot the computer**.

Restoring from a Network Drive

To restore a hard disk/partition from the backup image located on a network drive, simply do the following:

WinPE Recovery CD

1. **Insert** **Paragon WinPE Recovery CD** (the BIOS must be enabled to boot the system from the CD/DVD device).
2. **Restart** the computer.
3. Launch the **Restore Wizard** by clicking the **Backup and Rescue** button of the *Express Launcher* and then selecting the **Simple Restore** item.
4. On the Restore Wizard's Welcome page, click the *Next* button.
5. On the **Browse for Archive** page, select the required archive in the browser-like window. The *Archive File Details* section displays a short description of the selected image. Click the *Next* button.

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6. The **What to Restore** page displays detailed information about the contents of the archive. It includes a full description of properties about the archived disks or partitions. In case you have a complex archive, select the required item to restore.
7. On the **Where to Restore** page select a place you would like to restore the archive to.
8. On the **Restore Results** page review all parameters of the operation and modify them if necessary. Click the *Next* button to start the restore process.
9. After completing the operation **reboot the computer**.

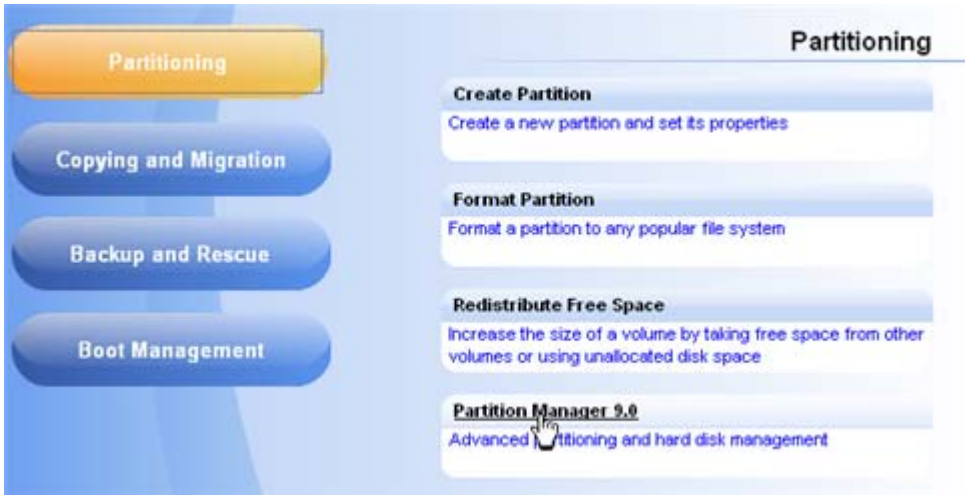
Linux/DOS Recovery CD

1. **Insert** **Paragon Linux/DOS Recovery CD** (the BIOS must be enabled to boot the system from the CD/DVD device).
2. **Restart** the computer.
3. **Set up a network connection** by selecting the **Network Configurator** item of the main menu.
4. Launch the **Simple Restore Wizard**. Click the *Next* button on the Welcome page.
5. On the **What to Restore** page, either type the **full path to the backup image of the disk, which you are going to restore**, or click the standard browse button **[...]** to find it. Click the *Next* button.
6. On the **Image Properties** page, **make sure that you select the correct image** viewing the provided information about the archive. When the archive has been chosen, click the *Next* button.
7. On the disk layout map, **select a disk**, to be restored. Click the *Next* button.
8. **Set the size of the partition**. The user can compress or expand it at the expense of available unused space. Click the *Next* button.
9. Click the *Finish* button to initiate the restoring process.
10. After completing the operation **reboot the computer**.

Restoring Separate Files and Folders from a Backup

To restore separate files and folders from a backup image with the Volume Explorer, simply do the following:

1. **Launch Partition Manager 9.0** by clicking the **Partitioning** button and then selecting **Partition Manager 9.0** in the Express Launcher;


Partitioning
Copying and Migration
Backup and Rescue
Boot Management
Partitioning
Create Partition
Create a new partition and set its properties
Format Partition
Format a partition to any popular file system
Redistribute Free Space
Increase the size of a volume by taking free space from other volumes or using unallocated disk space
Partition Manager 9.0
Advanced partitioning and hard disk management

2. In the main window of PM, click the **Disk View** tab and then choose **Volume Explorer**;

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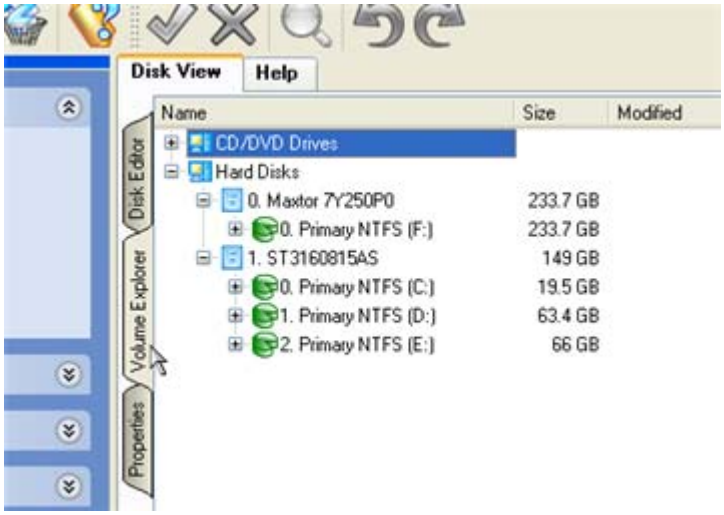
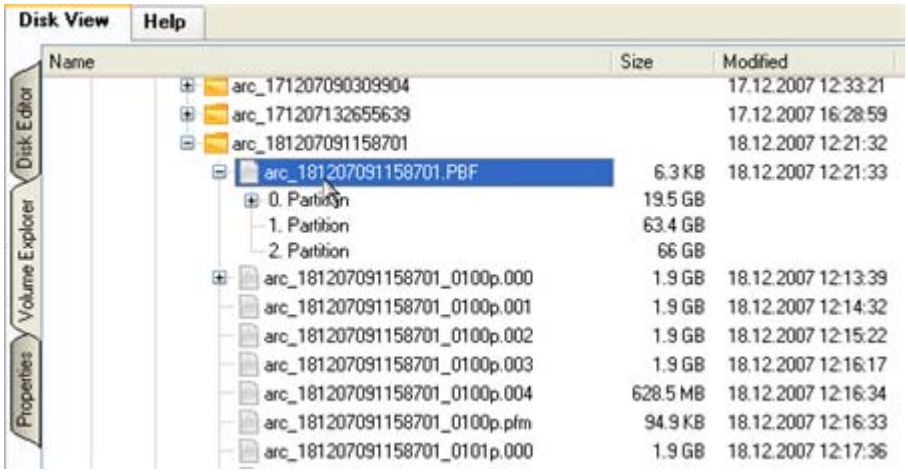
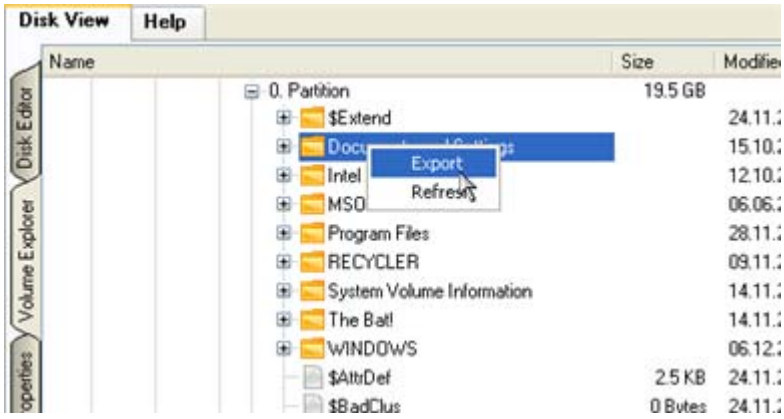


3. **Browse for the required archive** and then **open it** by double click of the left mouse button.



4. Call the popup menu (right click of the mouse button) for a file/folder you need and then select the **Export** item.



5. **Select a place on the disk** where the file/folder will be extracted to.

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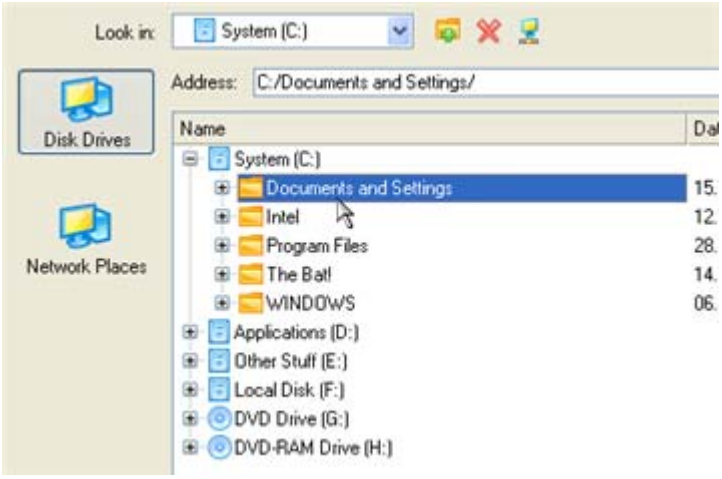

6. Click the *OK* button to accomplish the operation.

Copying of data from the corrupted system disk to another hard disk

To retrieve valuable information from your hard disk and copy it to another hard disk when the system fails to boot, simply do the following:

1. **Connect the second hard disk** to the computer.
2. **Insert Paragon WinPE or Linux/DOS Recovery CD** (the BIOS must be enabled to boot the system from the CD/DVD device).
3. **Restart** the computer.
4. **Launch the File Transfer Wizard**. Click the *Next* button to continue.

You can start up the File Transfer Wizard in the WinPE version of the program just the way it is done in Windows. However when dealing with the Linux/DOS Recovery CD, you can do it from the main menu.

5. **Select a disk where the files you need are stored** from the pull-down list in the right pane of the page.
6. **Choose files you want to copy and place them to Clipboard** by pressing the left arrow-button.
7. **Choose the way the data will be stored**. Select the **Save data to local drives or physical partitions** item. Click the *Next* button to continue.
8. On the **Select Destination Path** page, select a hard disk to copy the data to by pressing the *Browse* button. Click the *Next* button to accomplish the operation.
9. After the operation is completed, **exit the wizard** by pressing the appropriate button.
10. **Eject the CD**.
11. **Turn off the computer**.

***File Transfer Wizard* is not available for the *Personal* version of the program. To know more on the subject, please consult the Partition Manager Editions chapter.**

Burning of data from the corrupted system disk to CD/DVD

To retrieve valuable information from your hard disk and burn it to CD/DVD when the system fails to boot, simply do the following:

1. **Insert Paragon WinPE or Linux/DOS Recovery CD** (the BIOS must be enabled to boot the system from the CD/DVD device).
2. **Restart** the computer.
3. **Launch the File Transfer Wizard**. Click the *Next* button to continue.

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You can start up the File Transfer Wizard in the WinPE version of the program just the way it is done in Windows. However when dealing with the Linux/DOS Recovery CD, you can do it from the main menu.

4. **Select a disk where the files you need are stored** from the pull-down list in the right pane of the page.
5. **Choose files you want to copy and place them to Clipboard** by pressing the left arrow-button.
6. **Estimate the resulted data size** by pressing the *Calc* button. Click the *Next* button to continue.
7. **Choose the way the data will be stored**. Select the **Burn data to CD/DVD** item. Click the *Next* button to continue.
8. On the **Choose a recorder** page, select a recorder from the list and then set a volume label by typing it in the appropriate field. Click the *Next* button to continue.

The program enables to burn data either to a CD/DVD or an ISO image.

9. **Insert a blank CD/DVD**. In case the inserted disc is not empty, the program suggests the user erasing its contents. Click the *Next* button to accomplish the operation.
10. After the operation is completed, **exit the wizard** by pressing the appropriate button.
11. **Eject the CD**.
12. **Turn off the computer**.

***File Transfer Wizard* is not available for the *Personal* version of the program. To know more on the subject, please consult the Partition Manager Editions chapter.**

Copying of data from a backup to the corrupted system partition

The system fails to boot since some files are damaged. If you have a backup of the system partition, you can recopy these files to make the system be operable again:

1. **Insert Paragon WinPE or Linux/DOS Recovery CD** (the BIOS must be enabled to boot the system from the CD/DVD device).
2. **Restart** the computer.
3. **Launch the File Transfer Wizard**. Click the *Next* button to continue.

You can start up the File Transfer Wizard in the WinPE version of the program just the way it is done in Windows. However when dealing with the Linux/DOS Recovery CD, you can do it from the main menu.

4. **Select a disk where the system backup is stored** from the pull-down list in the right pane of the page.
5. **Open the required backup**, choose files you want to copy and place them to Clipboard by pressing the left arrow-button.
6. **Choose the way the data will be stored**. Select the **Save data to local drives or physical partitions** item. Click the *Next* button to continue.
7. On the **Select Destination Path** page, select the required system disk to copy the data to by pressing the **Browse** button. Click the *Next* button to accomplish the operation.
8. After the operation is completed, **exit the wizard** by pressing the appropriate button.
9. **Eject the CD**.
10. **Turn off the computer**.

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File Transfer Wizard is not available for the _Personal_ version of the program. To know more on the subject, please consult the Partition Manager Editions chapter.

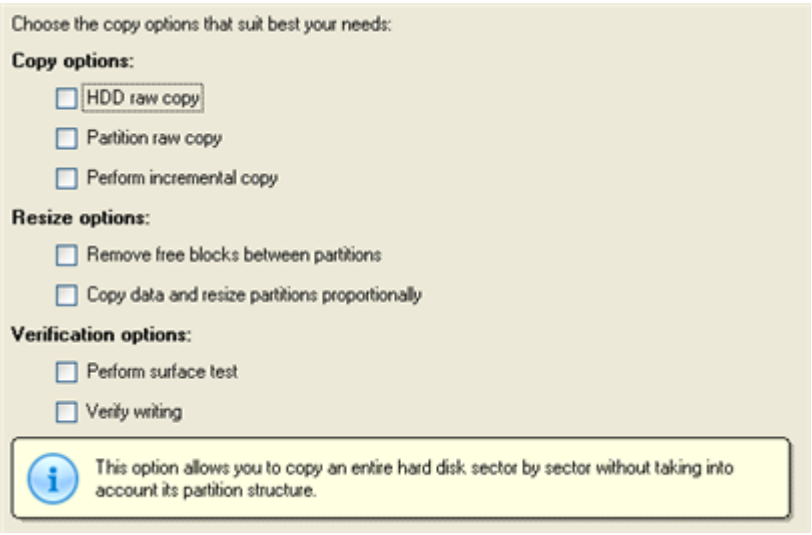
System Hard Disk Migration

To migrate your system hard disk to another disk with the Copy Hard Disk Wizard, simply do the following:

1. **Connect both source and destination disks to the computer**.
2. **Restart the computer.**
3. **Start the Copy Hard Disk Wizard** by clicking the **Copying and Migration** button of the *Express Launcher* and then selecting the **Hard Disk Migration** item. Click the *Next* button to continue.
4. On the **Select Hard Disk to Copy** page, select a source disk (a hard disk you want to copy). Click the *Next* button to continue.
5. On the **Select Target Hard Disk** page, select a destination disk (a hard disk where contents of the source disk will be copied). Click the *Next* button to continue.

During the operation all contents of the destination disk will be deleted.

6. **Define Copy Options** By default, the program offers to remove free blocks between partitions and resize them proportionally. That is just what we need. Besides we recommend you to enable the surface test to make sure your new hard disk is flawless.


Choose the copy options that suit best your needs:
Copy options:
HDD raw copy
Partition raw copy
Perform incremental copy
Resize options:
Remove free blocks between partitions
Copy data and resize partitions proportionally
Verification options:
Perform surface test
Verify writing
This option allows you to copy an entire hard disk sector by sector without taking into account its partition structure.

7. On the next page of the wizard page **review all parameters of the operation** and modify them if necessary. Click the *Next* button to start the operation
8. When copying is completed, **shut down the computer**.
9. **Disconnect (physically) the source hard disk**.
10. **Boot the computer from the destination hard disk**.

Creating Dual Boot Systems

Release of Windows Vista has given a new impetus to the problem of establishing a dual boot system. In this connection we decided to consider two the most frequently used situations a rank and file user may face, i.e. Windows Vista + Windows XP and Windows XP + Windows Vista. Please note that for reasons of better security and system independence these operating systems will be installed on different partitions. That is why we need to hide the first system partition before installation of the second OS.

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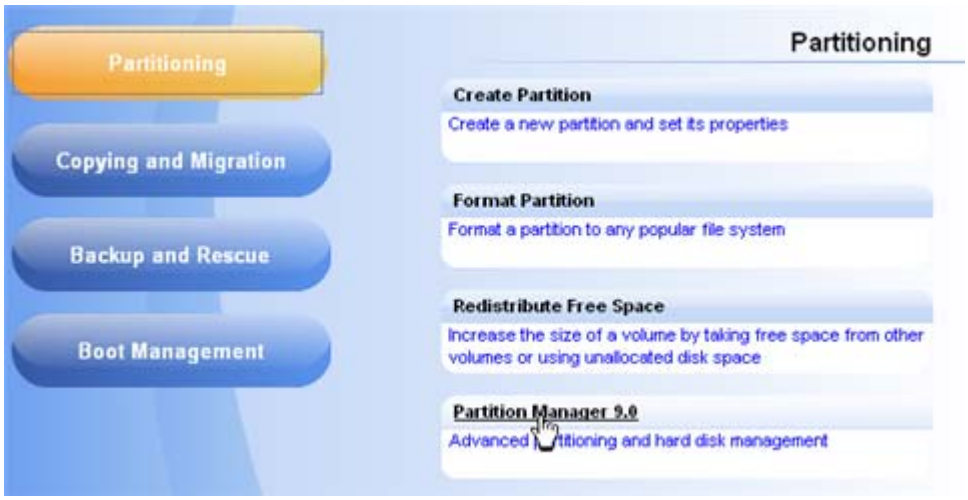
Windows Vista + Windows XP

Suppose you have got Windows Vista coming with your brand new computer. Everything is great except one thing – your favourite applications simply reject to work correctly on it. Software updates are expected to release in the near future, but you cannot wait any more. Thus the best way out is to leave Windows Vista intact and install the time-proved Windows XP.

Most likely you have only one hard disk with only one partition (the only partition is always system). To install the second operating system you need to repartition your drive first, as it requires a separate primary partition. If this case, the following scenario is just what you need:

This scenario implies that operating systems will be installed on different partitions to provide better security and system independence.

1. **Launch Partition Manager 9.0** by clicking the **Partitioning** button and then selecting **Partition Manager 9.0** in the Express Launcher;


Partitioning
Copying and Migration
Backup and Rescue
Boot Management
Partitioning
Create Partition
Create a new partition and set its properties
Format Partition
Format a partition to any popular file system
Redistribute Free Space
Increase the size of a volume by taking free space from other volumes or using unallocated disk space
Partition Manager 9.0
Advanced partitioning and hard disk management

2. In the main window of PM **select your hard disk on the Disk Map** to make a block of free space on it;

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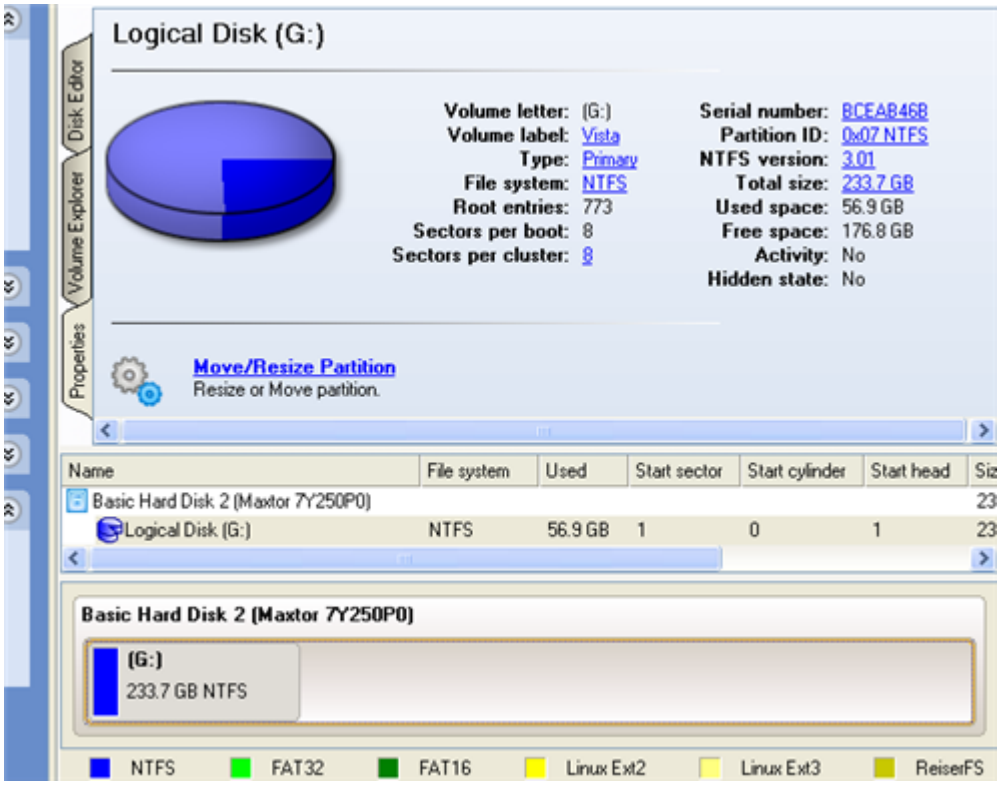
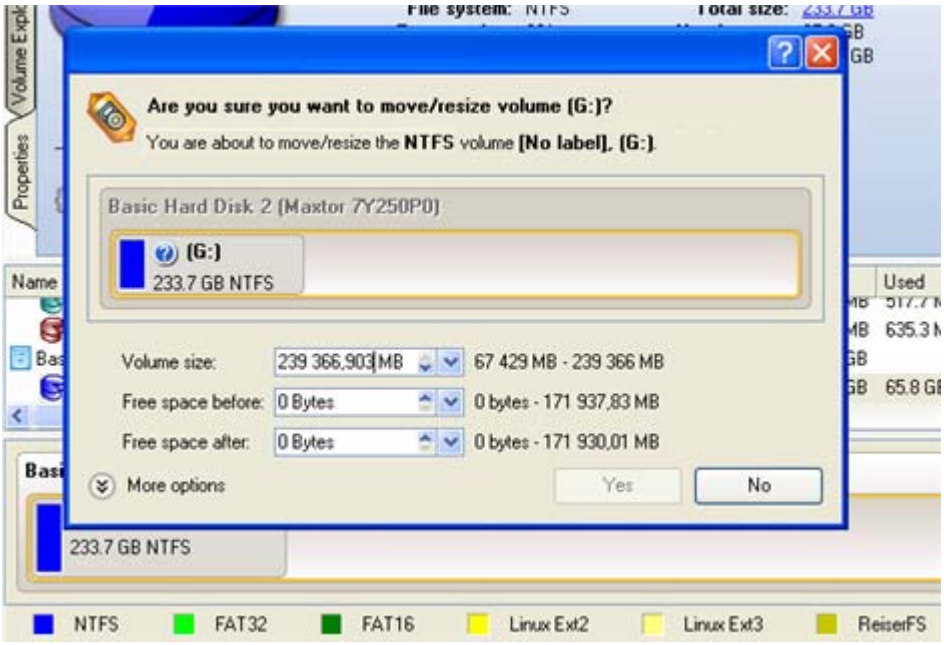


3. **Release some free space (not less than 10 GB to install Windows XP) from the partition**. To do that, please call the context menu for the selected partition (right click of the mouse button) and launch the **Move/Resize** dialog;



4. In the opened dialog **shift the edge of the partition to the left** by the *drag-and-drop* technique. While doing this, free space from the partition will be released (displayed in aqua-green). You can also do it manually by entering the exact size of free space. Click the *Yes* button to continue;

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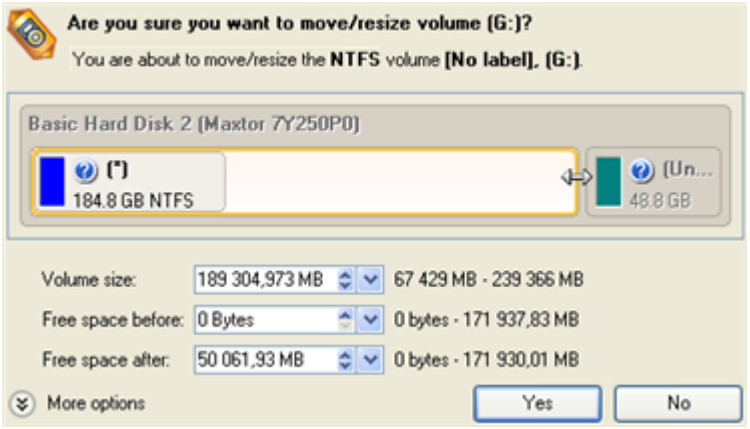
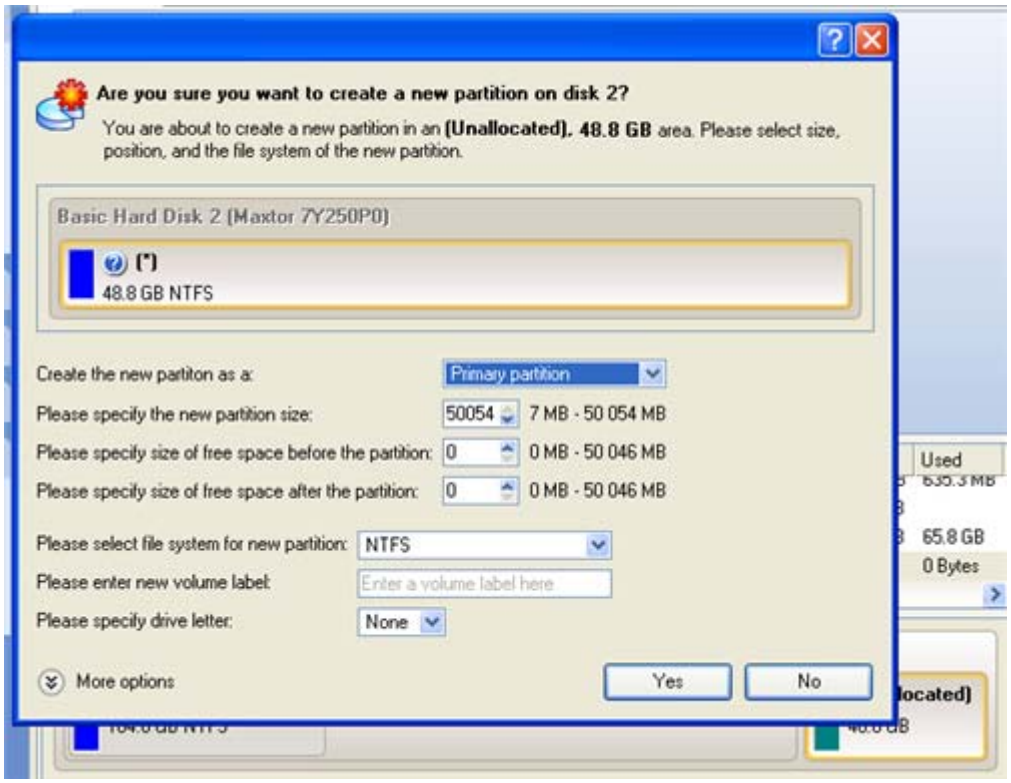


The Move/Resize dialog offers a number of additional parameters that can also be of help. However here we pay attention to the most relevant to fulfill our task.

5. Now the user has a block of free space sufficient in size to hold a new partition;

6. **Create a new partition to install Windows XP**. To do that, please call the context menu for a newly created block of free space (right click of the mouse button) and launch the Create Partition dialog;


Are you sure you want to create a new partition on disk 2?
You are about to create a new partition in an (Unallocated), 48.8 GB area. Please select size, position, and the file system of the new partition.
Basic Hard Disk 2 (Maxtor 7Y250P0)
(*)
48.8 GB NTFS
Create the new partiton as a:
Primary partition
Please specify the new partition size:
50054
7 MB - 50 054 MB
Please specify size of free space before the partition:
0
0 MB - 50 046 MB
Please specify size of free space after the partition:
0
0 MB - 50 046 MB
Please select file system for new partition:
NTFS
Please enter new volume label:
Enter a volume label here
Please specify drive letter:
None
More options
Yes
No
Used
65.8 GB
0 Bytes

7. **Define parameters of the future partition**. By all means it has to be primary and since we are going to install Windows XP, the most preferable file systems are NTFS and FAT32. Click the *Yes* button to continue;

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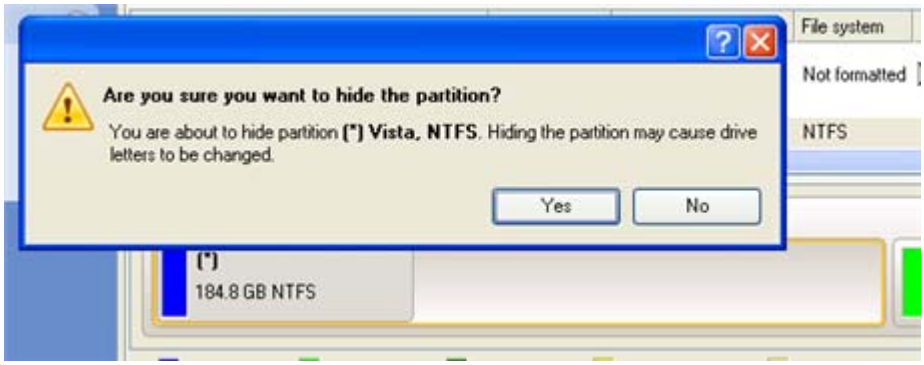
Create the new partiton as a:
Primary partition
Please specify the new partition size:
50054
7 MB - 50 054 MB
Please specify size of free space before the partition:
0
0 MB - 50 046 MB
Please specify size of free space after the partition:
0
0 MB - 50 046 MB
Please select file system for new partition:
FAT32
Please enter new volume label:
Enter a volume label here
Please specify drive letter:
None
More options
Yes
No

The Create Partition dialog offers a number of additional parameters that can also be of help. However here we pay attention to the most relevant to fulfill our task.

8. As a result of the operation we have got a newly created FAT32 partition just enough in size to comfortably work with Windows XP;

9. **Hide the Windows Vista partition** to avoid writing any data on it during the Windows XP installation, as it is the best way to provide system independence. To do that, please call the context menu for it (right click of the mouse button) and launch the Hide Partition dialog. Click the *Yes* button to continue;

Hiding of the system partition will make OS non-bootable, what is quite normal.


File system
Not formatted
NTFS
Are you sure you want to hide the partition?
You are about to hide partition (*) Vista, NTFS. Hiding the partition may cause drive letters to be changed.
Yes
No
(*)
184.8 GB NTFS

10. **Apply all introduced changes**. By default, PM works in the virtual mode of execution, so you have to confirm all operations to let the program accomplish them. To do that, just click the *Apply* button on the Virtual Operations Bar;

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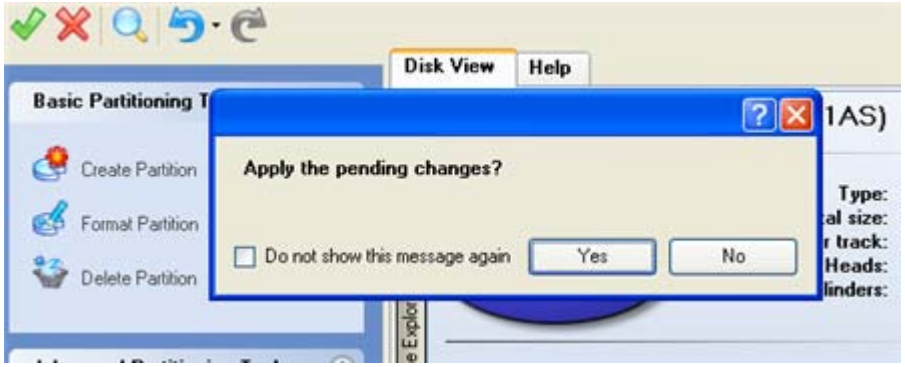

To perform the pending operations the program will need to restart the system into a special mode of execution.

After all the operations are completed you will not be able to restart the system, what is quite normal. Nevertheless if you do try it, the following error will occur:

```
STOP: c000021a {Fatal System Error}
The initial session process or system process terminated unexpectedly with a sta
tus of 0x00000000 (0xc0000034 0x0010037c).
The system has been shut down.
```

All the mentioned above operations can be accomplished with the help of the Linux/DOS Recovery CD.

11. **Install Windows XP on the newly created partition**. We won't go into details as for its installation, as you can find all the necessary information in documentation that comes with the product. However to avoid any problems, we consider it necessary to draw your attention on the following issues:
- You need a bootable distributive CD of Windows XP to install it;
- To automatically start your computer from this CD, make sure the on-board BIOS is set up to *boot from CD first* or press *F12* during startup to select a bootable device;
- Do not forget to select the newly created partition as destination.

Windows XP Professional Setup
The following list shows the existing partitions and unpartitioned space on this computer.
Use the UP and DOWN ARROW keys to select an item in the list.
• To set up Windows XP on the selected item, press ENTER.
• To create a partition in the unpartitioned space, press C.
• To delete the selected partition, press D.
238591 MB Disk 0 at Id 0 on bus 0 on atapi [MBR]
E: Partition1 (Inactive (OS/2 Boot Man188900 MB (182419 MB free)
C: Partition2 [FAT32] 49685 MB (49659 MB free)

Installation of Windows XP will make Windows Vista non-bootable.

12. **Launch the Boot Manager Setup wizard**. As your Windows Vista is non-bootable any more, you need to install Partition Manager 9.0 once again, but this time in Windows XP to activate Boot Manager.

To avoid double installation of the program, you can use WinPE Recovery CD to activate Boot Manager.

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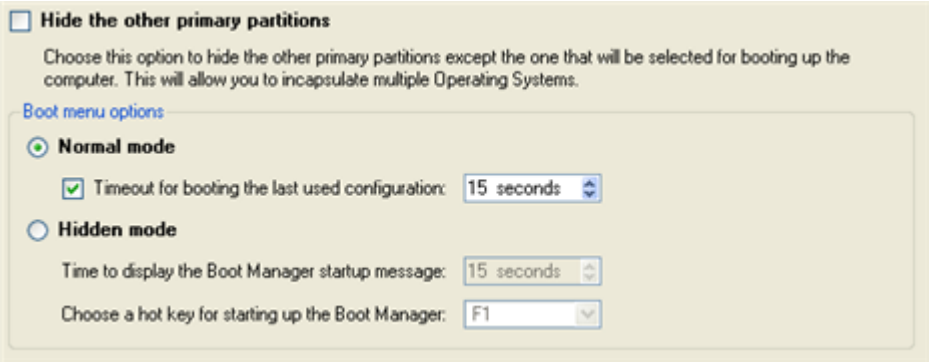
13. To launch the Boot Manager Setup wizard, please click the **Boot Management** button of the *Express Launcher* and select **Boot Manager**;

14. **Set up the Boot Manager wizard**. The most relevant option here is the possibility to hide other primary partitions except the one selected to boot and it is by all means should be activated to make Windows Vista and Windows XP unaware of each other. The rest of the parameters offered by default will do in our case, so just complete the wizard and it will automatically find the two operating systems and update the MBR.


Hide the other primary partitions
Choose this option to hide the other primary partitions except the one that will be selected for booting up the computer. This will allow you to incapsulate multiple Operating Systems.
Boot menu options
Normal mode
Timeout for booting the last used configuration:
15 seconds
Hidden mode
Time to display the Boot Manager startup message:
15 seconds
Choose a hot key for starting up the Boot Manager:
F1

15. **Now restart the computer to make sure you have got a dual boot system**.

Windows XP + Windows Vista

If you've got Windows XP and are willing to try the latest Windows Vista but not sure your favorite applications will flawlessly work on it, the best way out is to leave the time-proved Windows XP intact and install Windows Vista for studying purposes.

As this very situation is very close to the previous one, please use the Windows Vista + Windows XP scenario but taking into consideration a number of peculiarities:

1. Besides hiding of the system partition before installation of the second OS **you need to make it inactive** as well. To do that, please call the context menu for it (right click of the mouse button) and launch the corresponding dialog. Click the *Yes* button to continue;

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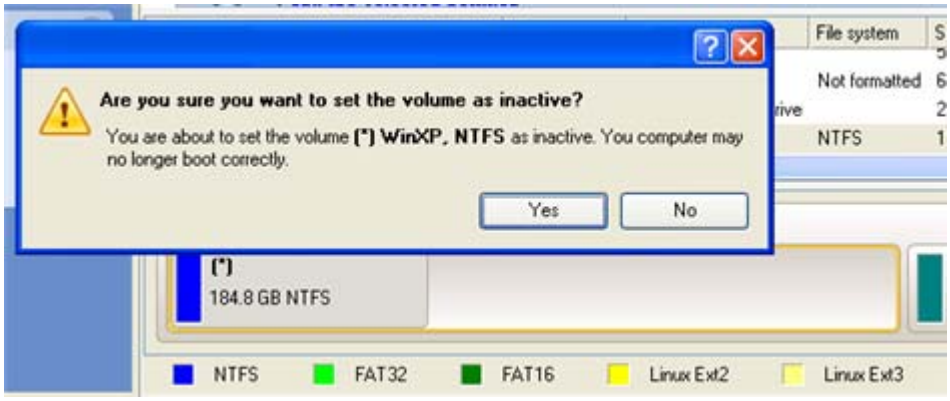
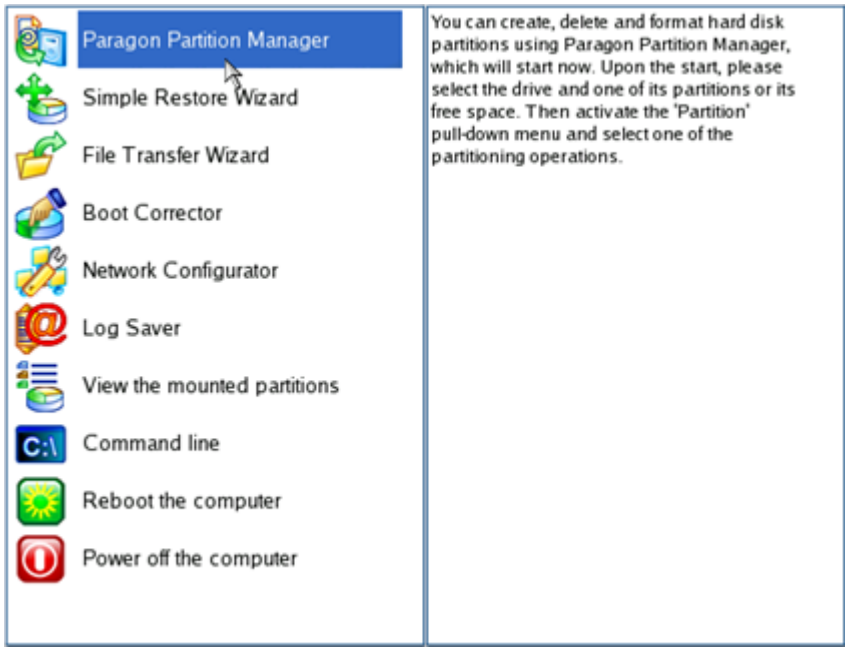


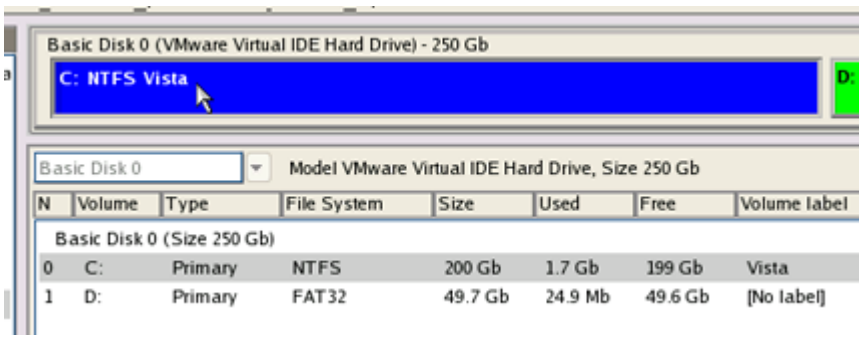
Reviving the System Partition

In case you are not able or not willing to complete the mentioned above scenarios, but have already reached the point when all changes are applied and everything is ready to install the second OS, simply do the following to make your system bootable once again:

1. **Insert Paragon Linux/DOS Recovery CD** (the BIOS must be enabled to boot the system from the CD/DVD device).
2. **Restart** the computer.
3. Select the **Paragon Partition Manager** item of the main menu.


Paragon Partition Manager
Simple Restore Wizard
File Transfer Wizard
Boot Corrector
Network Configurator
Log Saver
View the mounted partitions
Command line
Reboot the computer
Power off the computer
You can create, delete and format hard disk partitions using Paragon Partition Manager, which will start now. Upon the start, please select the drive and one of its partitions or its free space. Then activate the 'Partition' pull-down menu and select one of the partitioning operations.

4. In the main window of PM **select your non-bootable Windows partition on the Disk Map**;


Basic Disk 0 (VMware Virtual IDE Hard Drive) - 250 Gb
C: NTFS Vista
D:
Basic Disk 0
Model VMware Virtual IDE Hard Drive, Size 250 Gb
N Volume Type File System Size Used Free Volume label
Basic Disk 0 (Size 250 Gb)
0 C: Primary NTFS 200 Gb 1.7 Gb 199 Gb Vista
1 D: Primary FAT32 49.7 Gb 24.9 Mb 49.6 Gb [No label]

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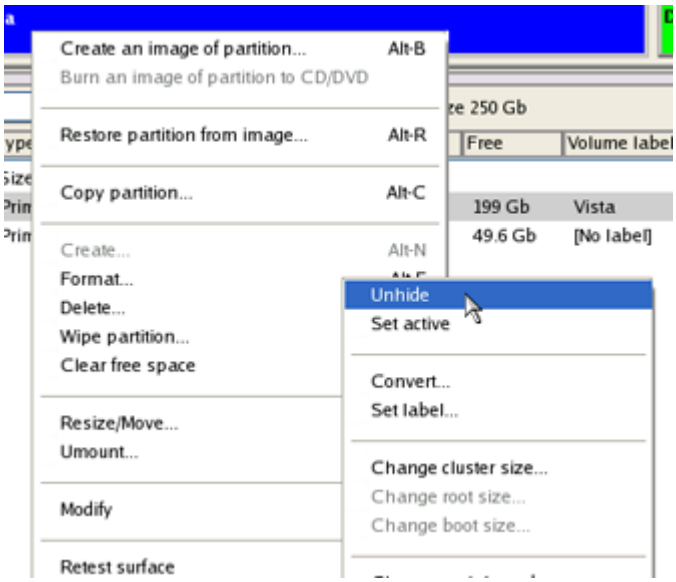
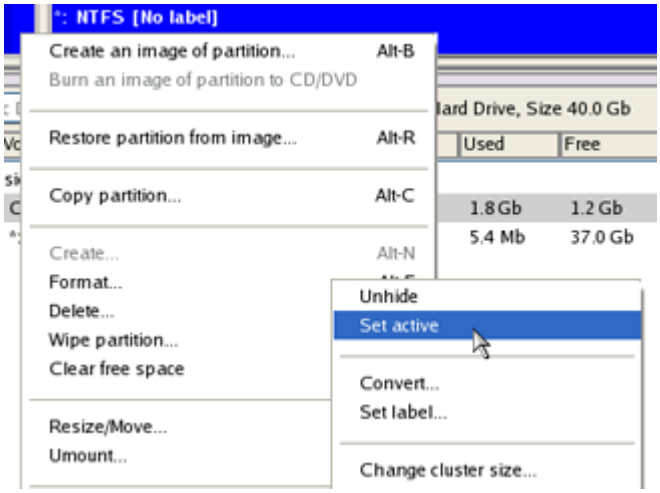
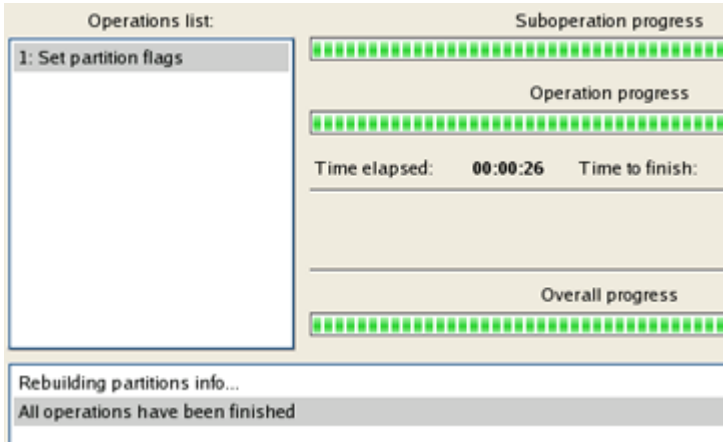
5. **Unhide the partition** by calling the context menu for it (right click of the mouse button) and then selecting **Unhide**;



6. Only for the [Windows XP + Windows Vista] scenario you need to make the system partition active as well by calling the context menu for it (right click of the mouse button) and then selecting **Set Active**;



7. You will be notified after the operations are completed.



8. **Restart the computer**.

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As a result your Windows becomes bootable once again.

Linux Network Configuration

In this section you will find out how to set up a network connection under Linux and configure settings of available network devices with the Network Configurator. The Network Configurator can be launched from the main menu of the Linux/DOS Recovery CD.

Due to certain limitations of the PTS DOS environment, *Network Configurator* is unavailable in DOS.

Setting up a Network Connection

In order to establish a network connection and mount available shared resources, simply do the following:

1. **Insert** **Paragon Linux/DOS Recovery CD** (the BIOS must be enabled to boot the system from the CD/DVD device).
2. **Restart** the computer.
3. Select the **Network Configurator** item of the main menu.
4. On the **Welcome** page of the wizard, select the **Configure Network Connections** option. Click the *Next* button.
5. On the **Configure Network Connections** page click the *Add* button to set up and mount a new network resource.
6. In the opened **Mount Setting** dialog, please define the following parameters for a new connection and available shared resources:
   - **Network path** to a shared resource on the net. Browse for it by clicking the appropriate button or manually enter the required path.
   - **Mount point**. It is a local directory where files from a shared network resource will be exported to. Browse for it by clicking the appropriate button or manually enter the required path.
   - **Username** and **Password** that will be given by a network administrator to connect to the shared resource.
7. Click the *Ok* button to confirm the entered parameters.

This connection will be added to the list of available network resources.

Setting up a Network Device

1. **Insert** **Paragon Linux/DOS Recovery CD** (the BIOS must be enabled to boot the system from the CD/DVD device).
2. **Restart** the computer.
3. Select the **Network Configurator** item of the main menu.
4. On the **Welcome** page of the wizard, click the *Next* button.
5. The second page provides the possibility to select a file with network configuration settings (by default, **netconf.ini**). Click the *Next* button to continue.
6. The program performs auto-detection of installed network devices and then displays a list of available devices (if any). The user can add a network device if it is not present on the list by clicking the *Add device* button.
7. Select the required device from the list and click the *Configure selected* button to configure it.
8. On the **Settings for Interface** page set an IP address (automatically defined by the DHCP Server or a static one), a network mask, a gateway and a DNS server address.

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9. **Restart the network** to apply the entered parameters by clicking the *Restart network* button. Click the *Next* button.
10. Click the *Next* button to complete the operation.

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Deinstalling the Program

To remove the program from your computer, please click the Windows **Start** button and select **Programs > Uninstall Paragon Partition Manager 9.0**.

In case you have activated Boot Manager on your computer, please deactivate it before removing the program by launching the corresponding wizard. Otherwise its records will remain in the MBR.

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Glossary

Active partition is a partition from which an x86-based computer starts up. The active partition must be a primary partition on a basic disk. If you use Windows exclusively, the active partition can be the same as the system volume.
In the *DOS partitioning scheme*, only Primary Partitions can be active due to limitations of the standard bootstrap.

Backup Image is an archive of the disk, which includes all the on-disk files and service information on the disk layout. To restore disks from such an archive means retrieving all informational components of the disk (e.g. a hard disk image consists of its partitions, the Partition Table and even bootstrap code).

Bootable Archives are created by adding a special bootable section when the user is backing up the data to CD/DVDs. The user is able to restore the data from these archives without having to run the program, but by simply booting from these CD/DVDs.

Cluster is the smallest amount of disk space that can be allocated to hold a file. All file systems used by Windows organize hard disks based on clusters, which consist of one or more contiguous sectors. The smaller the cluster size, the more efficiently a disk stores information. If no cluster size is specified during formatting, Windows picks defaults based on the size of the volume. These defaults are selected to reduce the amount of space that is lost and the amount of fragmentation on the volume. A cluster is also called an allocation unit.

Extended Partition is a type of partition that you can create only on basic master boot record (MBR) disks. Extended partitions are useful if you want to create more than four volumes on a basic MBR disk. Unlike primary partitions, you do not format an extended partition with a file system and then assign a drive letter to it. Instead, you create one or more logical drives within the extended partition. After you create a logical drive, you format it and assign it a drive letter. An MBR disk can have up to four primary partitions, or three primary partitions, one extended partition, and multiple logical drives.

File system metadata. The servicing structures of a file system, which contain information about allocating files and directories, security information etc, are named file system metadata. File system metadata are invisible for users and ordinary applications because accidental modifications of the metadata usually make a partition unusable.

Hard disk geometry. Traditionally, the usable space of a hard disk is logically divided into *Cylinders*, Cylinders are divided into *Tracks* (or *Heads*), and Tracks are divided into *Sectors*.

The triad of values {[Sectors-per-Track], [Tracks-per-Cylinder], [Amount-of-Cylinders]} is usually named *Hard Disk Geometry* or *C/H/S geometry*.
Tracks and Cylinders are enumerated from "0", while Sectors are enumerated beginning with "1".
These disk parameters play an essential role in the *DOS Partitioning scheme*. The alignment of partitions takes the parameters of the hard disk geometry into consideration.

Modern hardware uses an advanced scheme for the *linear addressing* of Sectors, which assumes that all on-disk sectors are continuously enumerated from “0”. To allow backward compatibility with older standards, modern hard disks can additionally emulate C/H/S geometry.

Hidden partitions. The concept of hidden partitions was introduced in the IBM OS/2 Boot Manager. Operating systems do not mount "hidden" partitions, which prevents access to their contents.

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A method of hiding partitions consists in changing the Partition ID value that is saved in an appropriate entry of the Partition Table. This is achieved by XOR-ing the Partition ID with the 0x10 hexadecimal value.

This method only works when the set of usable Partition ID values is very limited, since large sets of usable Partition IDs can lead to confusing file system types; for example, Ext2 partitions are marked with the 0x83 Partition ID value. A hidden Ext2 partition would be marked with the 0x93 Partition ID value, which is identical with the Amoeba File system Partition ID.

Master File Table (MFT) is a relational database that consists of rows of file records and columns of file attributes. It contains at least one entry for every file on an NTFS volume, including the MFT itself. MFT is similar to a FAT table in a FAT file system.

MBR & 1st track of the hard disk is the 0th sector of the disk. MBR (Master Boot Record) contains important information about the disk layout:
- The partitioning scheme.
- The starting records of the Partition Table.
- The standard bootstrap code (or the initial code of boot managers, disk overlay software or boot viruses).

Generally, the 0th sector is used for similar purposes in all existing partitioning schemes.
The capacity of the MBR is not sufficient to place sophisticated boot programs. This means that the on-boot software uses the entire 0th track of the hard disk in addition to the 0th sector because it is not included in any partition. For example, boot managing utilities such as LILO, GRUB and Paragon Boot Manager are located in the 0th track.

Partition ID (or File system ID) is the identifier of a file system that is placed in the partition. The partition ID is used to quickly detect partitions of supported types. Some of the operating systems rely completely on the Partition ID when distinguishing supported partitions, while others again do not.
The partition ID is saved in appropriate entries of the *Partition Table*. It takes up only 1 byte of space.

Partition Label (sometimes also referred to as Volume Label) is a small textual field (up to 11 characters) that is located in the partition's boot sector. This value is used for notification purposes only. It is detectable by any partitioning tool including DOS' FDISK utility.

Modern operating systems use other methods to save the Volume Label within the file system, e.g. as a special hidden file. The Volume Label is able to contain a relatively large amount of text in multiple languages. In general, the Volume Label and the Partition Label are rather different.

Partitioning scheme is a set of rules, constraints and the format of on-disk structures that keep information of the partitions that are located on the hard disk. There are several partitioning schemes, which can be used. The most popular partitioning scheme is the so-called *DOS partitioning scheme*. It was introduced by IBM and Microsoft to use multiple partitions in the disk subsystems on IBM PC compatible computers.

Another popular partitioning scheme is the so-called *LDM* (Logical Disks Model) that originates from UNIX mainframe systems. The Veritas Executive accommodates the simplified version of LDM to the Windows 2000 operating system.

Windows 2000 and XP support two quite different partitioning schemes: the old DOS partitioning scheme and the new Dynamic Disk Management (DDM). The problem is that older versions of Windows do not support DDM. In addition, most hard disk utilities do not support it as well.

Recovery Media is a CD or DVD (or even a floppy disk) from which the user can boot and recover the system.

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Root Directory is the top-level directory of a formatted logical drive. The Root Directory includes other files and directories.
In modern file systems (e.g. Ext2/Ext3, FNTFS and even FAT32), the Root Directory does not differ from other directories in properties. This is not the case for old FAT12 and FAT16 file systems.

Serial Number. In the DOS partitioning scheme, every hard disk and every partition has a Serial Number, which consists of 32 bits and is represented by an 8-figure hexadecimal value.

The hard disk's Serial Number is stored in the MBR. Its value is assigned when the MBR sector is initialized by standard disk managing tools from Microsoft, such as Windows Disk Administrator and FDISK utility.

In fact, the hard disk's Serial Number is not important for most operating systems and software. It is known that Windows NT, 2000 and XP store hard disks' Serial Number values in the database of assigned drive letters.

A partition's Serial Number is stored in its Boot Sector (in FAT16, FAT32 and NFTS file systems). Its value is assigned when the partition is formatted. In fact, the partition's Serial Number does not play an important role for most operating systems and software.

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